



GETTING STARTED

PACE Suite 5.1



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1 Introduction

1.1 About This Document

The Getting Started document describes how to perform common application packaging tasks with the 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.
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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.
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APPV	Microsoft Application Virtualization (also known as App-V; formerly Softricity SoftGrid) is an application virtualization and application streaming solution from Microsoft.
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APPX	APPX is the file format used to distribute and install Universal Windows Platform (UWP) apps on Windows 8.x and 10, Windows Phone 8.1, Windows 10 Mobile, Xbox One, HoloLens, and Windows 10 IoT Core.
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MSIX	MSIX is the file format used to distribute and install Universal Windows Platform (UWP) apps on Windows 10, 8/8.1, 7, MacOS, iOS, Android, Linux, Web.
-------------	--

2 PACE Overview

PACE Suite consists of the following components:

Tool	Major functions
 MSI GENERATOR	<ul style="list-style-type: none"> • Repackage any existing installation into Windows Installer (MSI), UWP app package (MSIX/APPX) or a virtualization format (Microsoft App-V 5.x, and VMware ThinApp). • Auto-detection of embedded installers. • Create a response transform • Include the excluded files/registry back to a package.
 MSI EDITOR	<ul style="list-style-type: none"> • Manage the contents of an MSI in a tree view • Import the desired resources • Manage Custom Actions • Integrate Device Drivers • Use a smart and advanced MSI database editor, with formatted string auto-completing, Excel-like formula bar, row reference tracking, and more. • Create patches (MSP) and Merge Modules (MSM) • Manage permission settings for file system and registry • Handle upgrades easily – just let MSI Editor know which MSI you want to be upgraded at runtime. • Publish your applications to Microsoft SCCM 2007, 2012, 2016. • See the estimated complexity of an app right away. • Generate package documentation containing the details about your package and configuration. • Undo-redo any manipulation and see the changes highlighted in the MSI tables
 DOCU GENERATOR	<ul style="list-style-type: none"> • Automatically record your on-screen actions into a nice-looking document with screenshots and annotations

2.1 Installation & Activation

2.1.1 Software Prerequisites

Ensure that a target system contains necessary software prerequisites:

OS	Windows 10/8.1/8/7 SP1, Windows Server 2016/2012/2008 R2 SP1 NOTE Building Universal Windows Platform app packages (MSIX/APPX) is available under Windows 10 or Windows Server 2016 and newer.
Middleware	Microsoft .NET Framework 4.7.2 (https://dotnet.microsoft.com/download/dotnet-framework-runtime) or higher. NOTE For building THINAPP packages, ensure that your system contains VMware ThinApp (5.0.0/5.0.1/5.1.0/5.1.1/5.2.0) installed and activated with the valid license. NOTE For publishing MSI packages to Microsoft SCCM 2007 (SP1/SP2/R1/R2) or SCCM 2012 (SP1/SP2/R2/R2 SP1) server, ensure that your system contains Microsoft Management Framework 3.0 and Windows Remote Management (WinRM) service enabled.
Privileges	Administrative privileges on the system.

2.1.2 Hardware Prerequisites

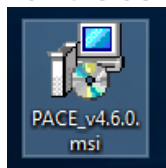
Ensure that a target system fulfils the minimum hardware conditions:

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.

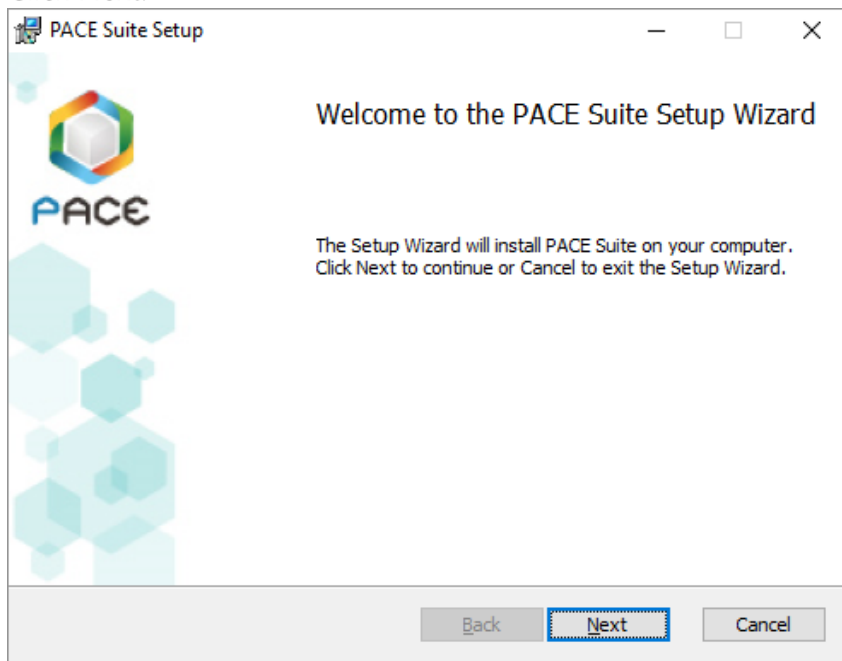
2.1.3 Installing PACE Suite

PACE Suite installation checks whether your license is compatible with the current PACE Suite version and whether your system meets minimum software requirements. Note that the installation requires the administrator privileges.

- Run the downloaded PACE Suite installer.



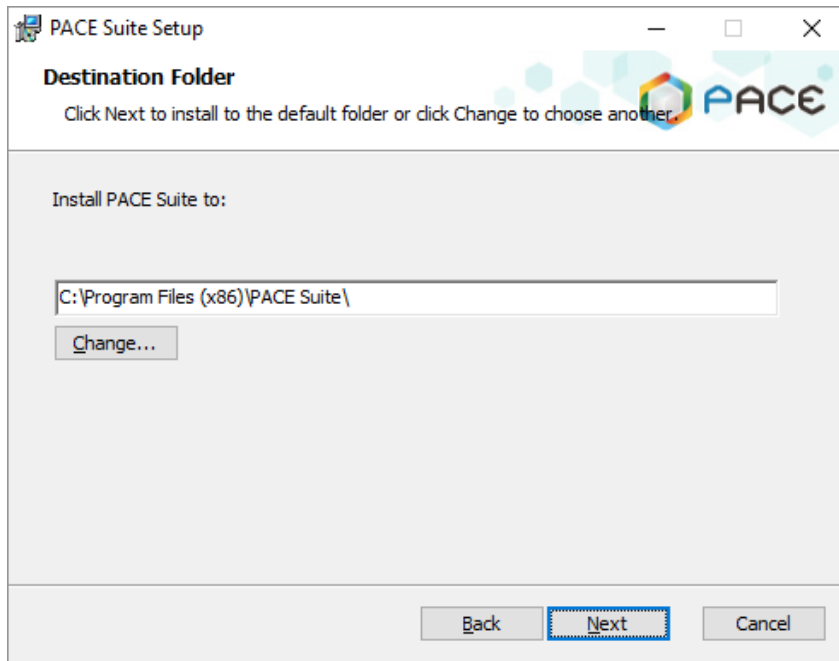
- Click Next.



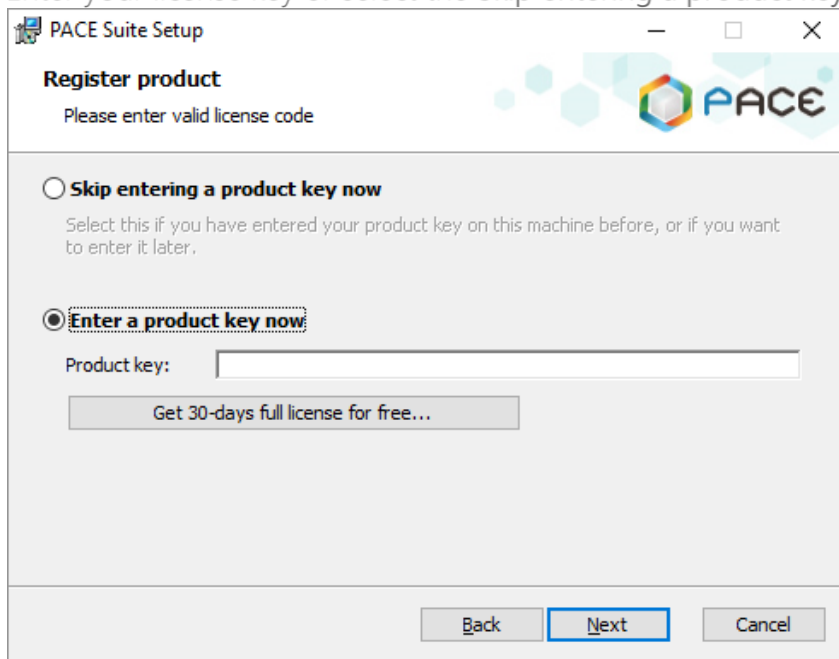
- Read and accept the END USER LICENSE AGREEMENT and then click Next.



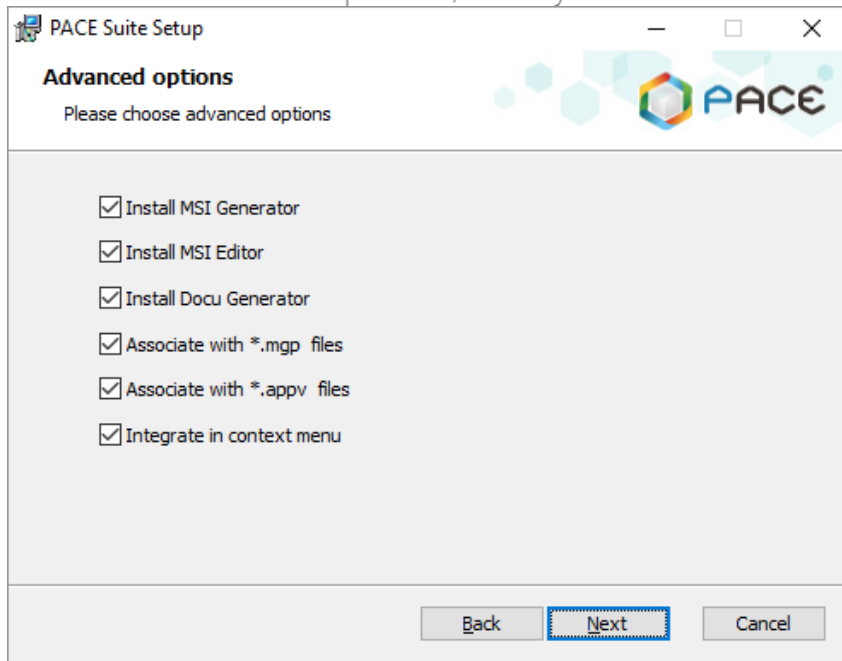
- Leave the default installation location or choose an alternative one and click Next.



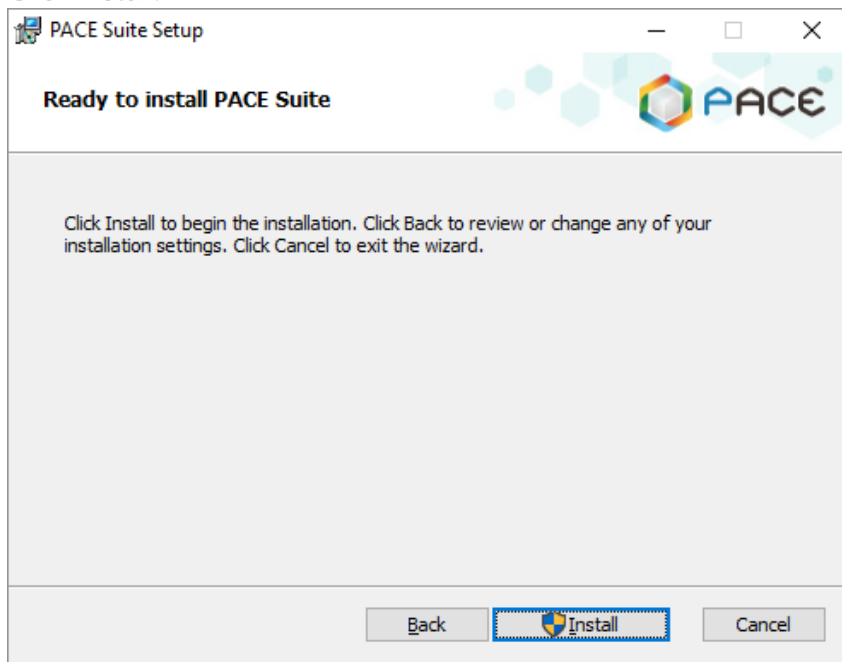
- Enter your license key or select the Skip entering a product key now option and click Next.



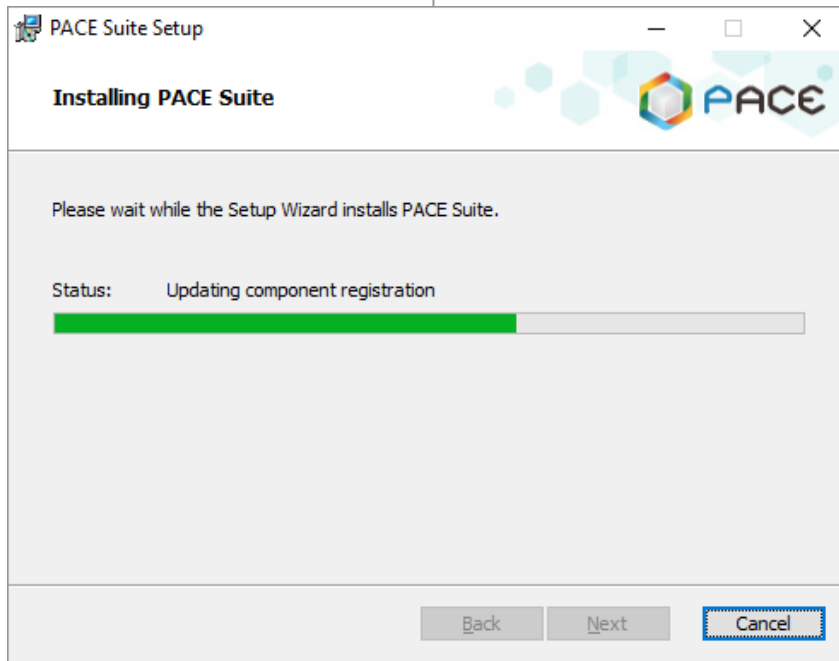
- Uncheck PACE Suite components, which you do not want to install, and click Next.



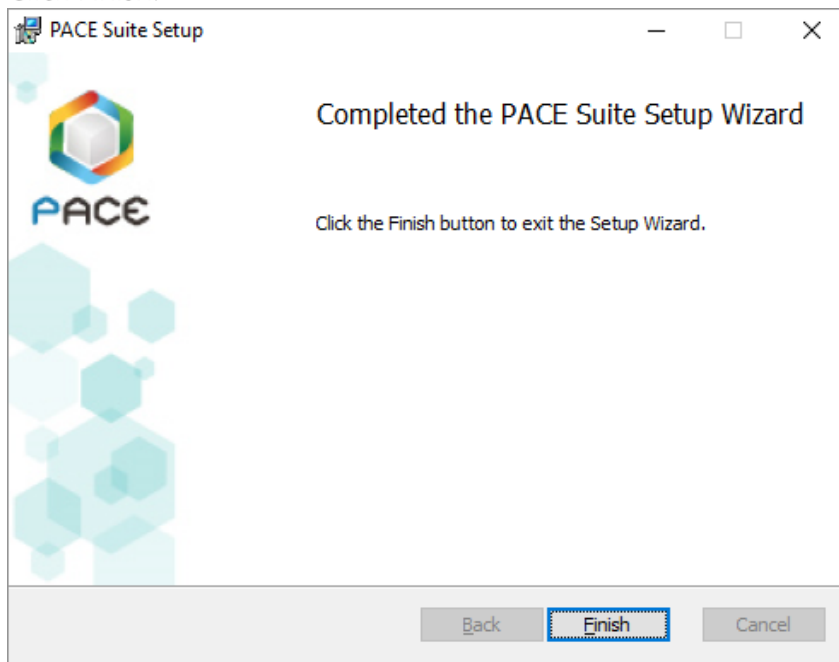
- Click Install.



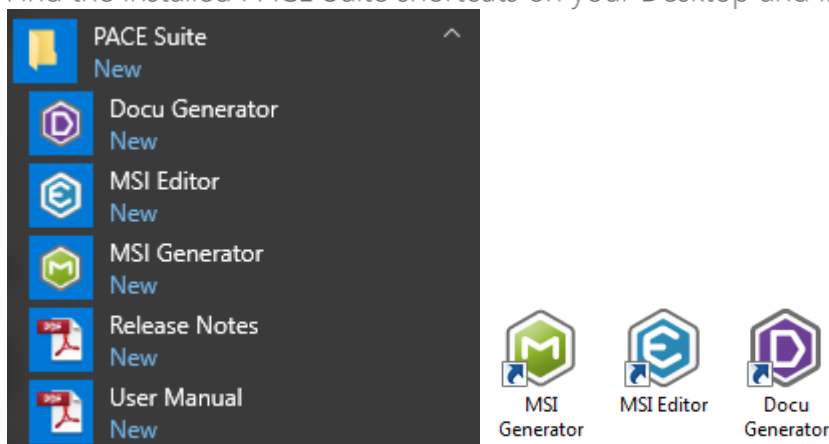
- Wait until the installation is completed.



- Click Finish.



- Find the installed PACE Suite shortcuts on your Desktop and in the Start Menu.

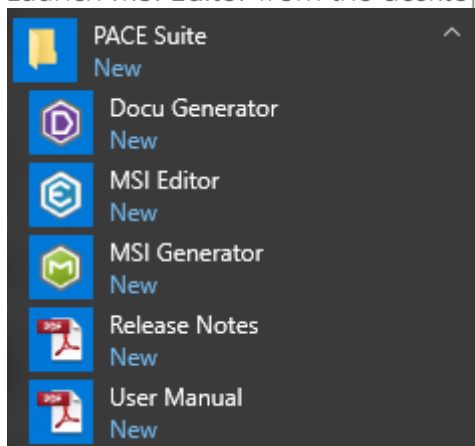


2.1.4 Activating PACE Suite

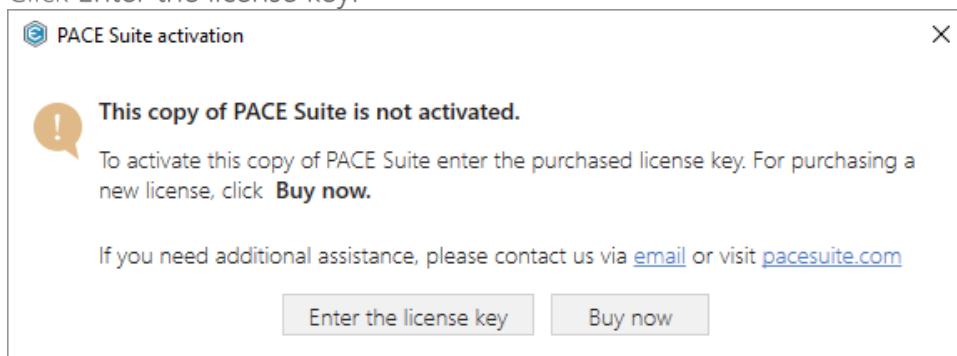
If you have installed PACE Suite with the **Skip entering a product key now** option or your current license is expired, you can activate your copy of PACE Suite with the provided license key.

As PACE Suite consists of MSI Editor, MSI Generator and Docu Generator, you have to activate all these products separately.

- Launch MSI Editor from the desktop or the start menu shortcut.

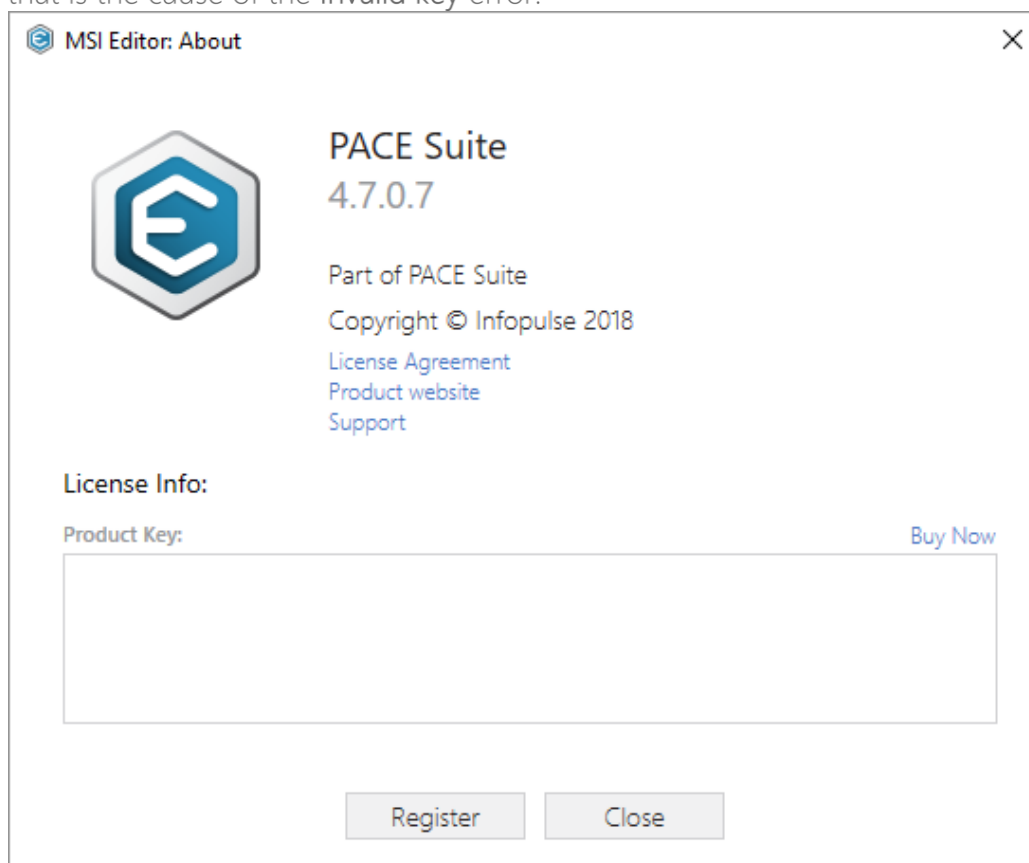


- Click Enter the license key.

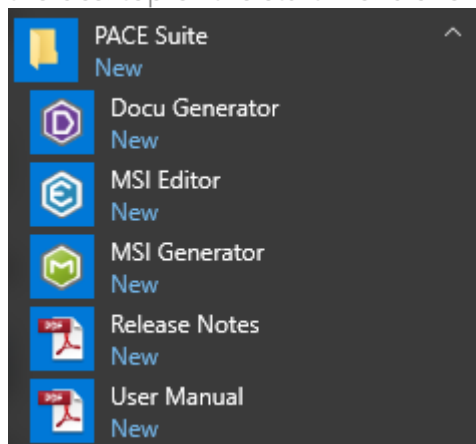


- Enter your license key and click Register.

NOTE If you are using the desktop version of Microsoft Outlook, ensure that the [Auto Remove Line Breaks feature](#) is disabled. Otherwise, your keys may be displayed incorrectly, and often that is the cause of the Invalid key error.



- Repeat the activation process for MSI Generator and Docu Generator, launching them from the desktop or the start menu shortcut.



3 How-To Manuals

We regularly publish PACE Suite educational videos on YouTube. Please subscribe to our [channel](#).

3.1 Create MSI

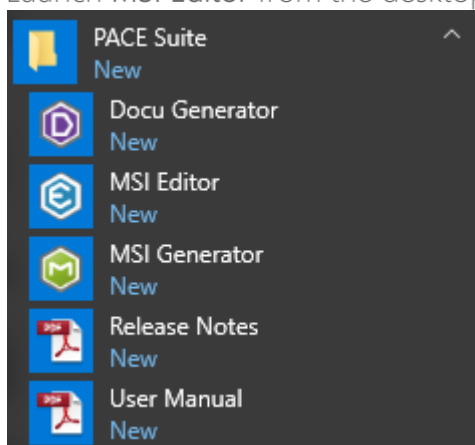
Choose a scenario that better suits your needs:

- **Create MSI from Scratch**, described in section 3.1.1
Create a blank MSI in MSI Editor, add folders, files, registry entries and shortcuts directly to the MSI package.
- **Repackage Installation to MSI**, described in section 3.1.2
Repackage your source installation (EXE, MSI, VBS, CMD, etc.) into MSI package using MSI Generator. Along with files and registry, services and environment variables, you can capture the modified permissions to the file system and registry.
- **Capture System Changes to MSI**, described in section 3.1.3
Capture system changes, which were made to the file system and registry, by script, by application or manually and save them into MSI package using MSI Generator. Along with files and registry, services and environment variables, you can capture the modified permissions to the file system and registry.

3.1.1 Create MSI from Scratch

Create a blank MSI in MSI Editor, add folders, files, registry entries and shortcuts directly to the MSI package.

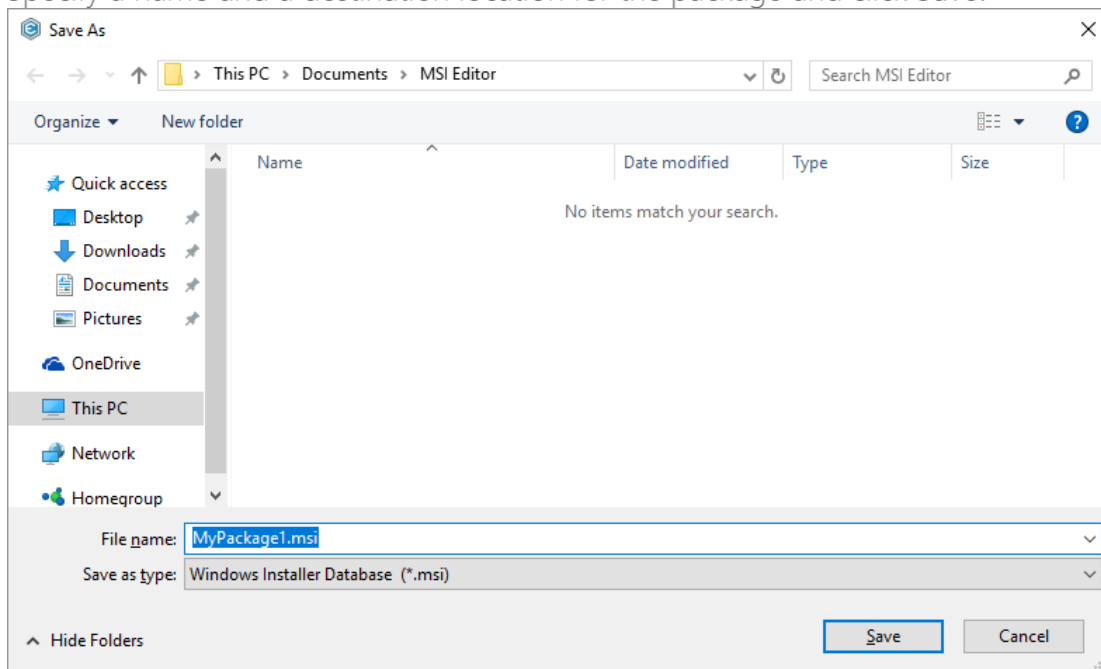
- Launch MSI Editor from the desktop or the start menu shortcut.



- Select New MSI... from the MENU to create a new empty MSI package.



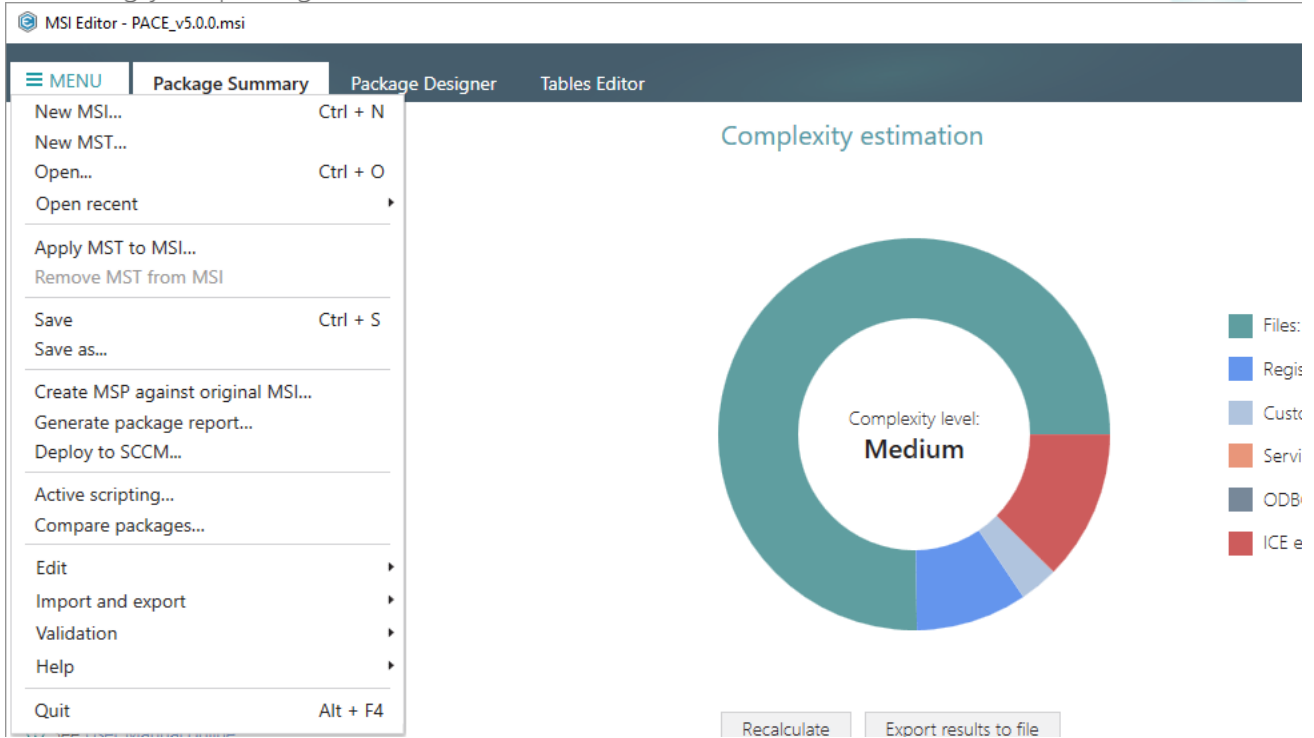
- Specify a name and a destination location for the package and click Save.



- For managing package resources and settings, refer to the respective section of this document:
 - For managing Application Details see section 3.7.2
Manage product name, version, language and manufacturer of the application.
 - For managing Package IDs see section 3.7.3
Manage product, upgrade and package codes.

- For managing **Files and Folders** see section 3.7.4
Review package files and folders, add new folders, import files, set permissions, register COM objects and .NET assemblies, set the INSTALLDIR folder and the like.
- For managing **Shortcuts** see section 3.7.5
Review package shortcuts, add new or import existing shortcuts, manage their properties.
- For managing **Registry** see section 3.7.6
Review package registry, add new or import from REG file registry keys and values, integrate ActiveSetup, set permissions and the like.
- For managing **Custom Actions** see section 3.7.7
Manage custom and standard actions of the package, add new one to run scripts, EXE, etc.
- For managing **Drivers** see section 3.7.8
Review the package device drivers, modify and add new ones.
- For managing **Features and Components** see section 3.7.9
Review the feature-component structure and resources, linked with components. Add new features, components and manage their properties.
- For managing **ARP Appearance** see section 3.7.10
Control how the package will be displayed in the App list (Add & Remove Programs).
- For managing **Upgrades** see section 3.7.11
Manage the package upgrade settings to automatically upgrade previous MSI packages.
- For managing **MSI Properties** see section 3.7.12
Manage package properties, defined in the Property table and those, which will be updated by the CustomAction, AppSearch, Control, ComboBox, CheckBox, RadioButton tables.
- For managing **Summary Information** see section 3.7.13
Manage Summary Information of the opened MSI/MST.
- For managing **MSI Tables** see section 3.7.14
Add, import, drop MSI tables.
- For managing **Merge Modules**, described in section 3.7.15
Create new MSM or importing existing MSM to the package.

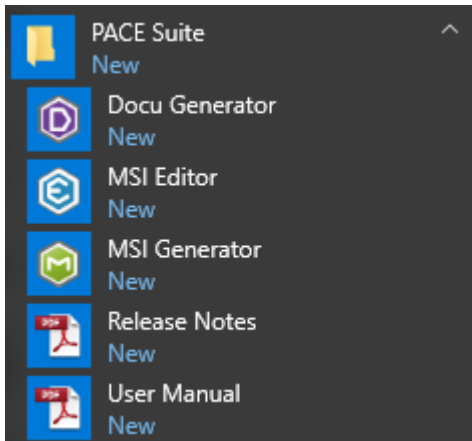
- For saving your package, select Save from the MENU.



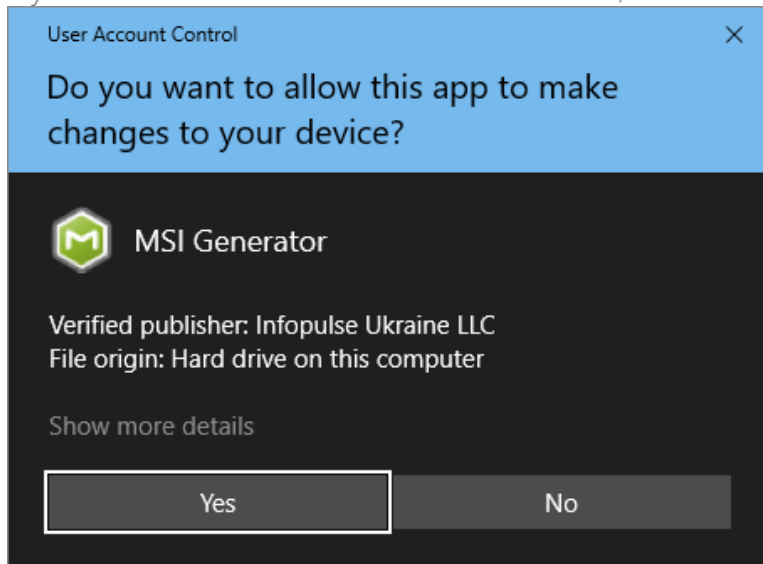
3.1.2 Repackage Installation to MSI

Repackage your source installation (EXE, MSI, VBS, CMD, etc.) into MSI package using MSI Generator. Along with files and registry, services and environment variables, you can capture the modified permissions to the file system and registry.

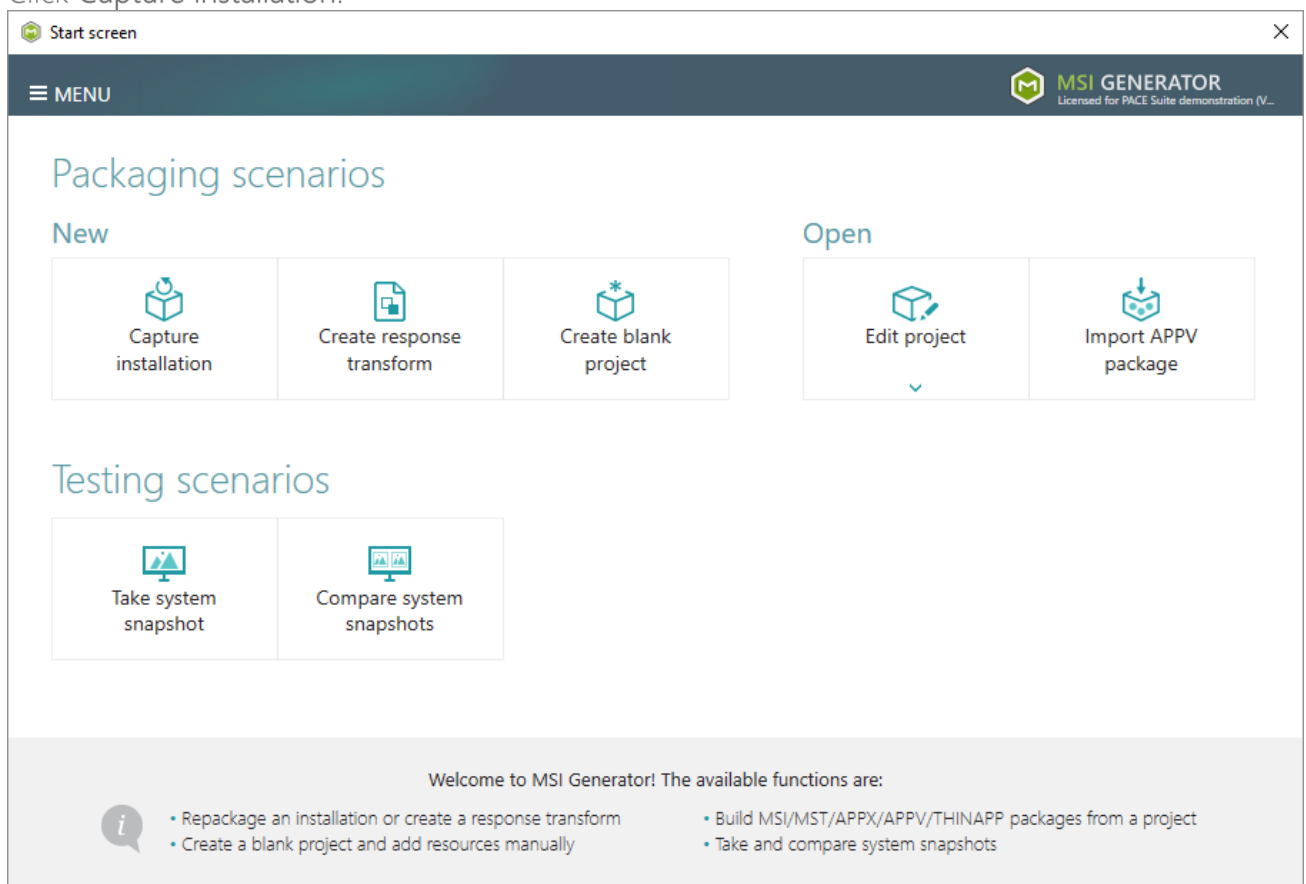
- Launch MSI Generator from the desktop or the start menu shortcut.



- If you have the User Account Control enabled, click Yes to launch the application.



- Click Capture installation.



- Review the issues, which were detected on your system, and try to resolve them by closing the non-essential applications and stopping services. Thereafter, click **Next >**.

Capture installation

Prepare computer

Capturing method

Settings

Installation

Completion

Prepare the computer for capturing

It is strongly recommended to perform capturing on a clean virtual machine with all non-essential processes stopped in order to avoid capturing data, which is not related to your source installation. Also, in case of any failure, you will be able to restore the virtual machine to the previous state.

The following issues were detected on your system:

Description	Resolution
Diagnostic Policy Service is active.	Stop this service before capturing.
Windows Defender Antivirus Service is active.	Stop this service before capturing.
Security Center is active.	Stop this service before capturing.
Windows Search is active.	Stop this service before capturing.
Windows Defender is running.	Close your antivirus software before capturing.

Refresh

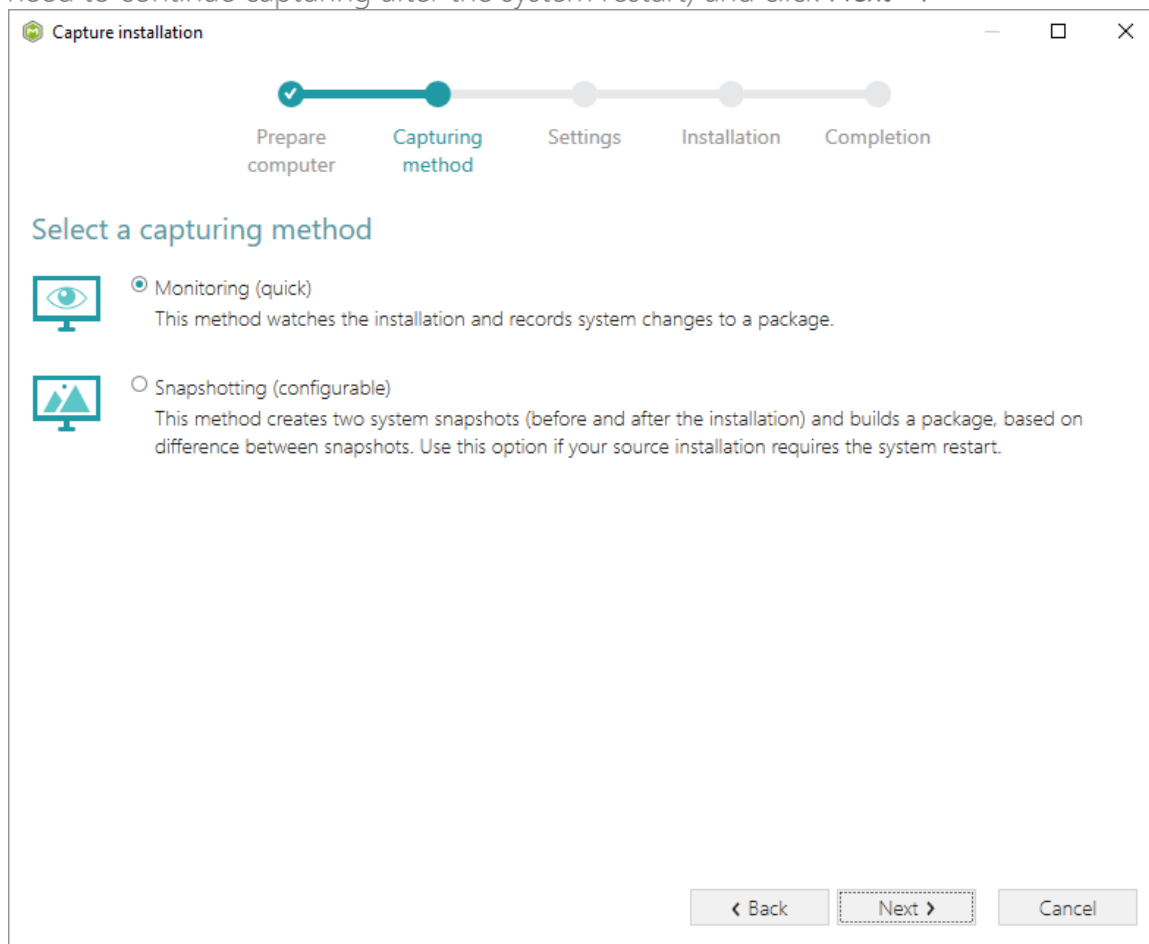
[Review the capturing recommendations...](#)

< Back

Next >

Cancel

- Select the **Monitoring** method for the quicker capturing (or use the **Snapshotting** one if you need to continue capturing after the system restart) and click **Next >**.



- Review and update package name. If needed, disable unnecessary exclusion filters and scanning areas. Click **Next >** to start the capturing.

The screenshot shows the 'Capture installation' window with the 'Settings' tab selected. The progress bar at the top indicates the following steps: Prepare computer (checked), Capturing method (checked), Settings (active), Installation, and Completion. The 'Package name' field contains 'PKG-170912-154800'. Under 'Exclusion filters', the text 'Apply the following filters to the captured resources:' is followed by three checked items: 'AllWindowsOS', 'Win7', and 'Win8-10'. Under 'Scanning areas', the text 'Application objects:' is followed by three checked items: 'Permissions', 'Services', and 'Printers'. At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

Capture installation

Prepare computer Capturing method **Settings** Installation Completion

Settings

Package name
PKG-170912-154800

Exclusion filters

Apply the following filters to the captured resources:

- ☒ AllWindowsOS
- ☒ Win7
- ☒ Win8-10

Scanning areas

Application objects:

- ☒ Permissions
- ☒ Services
- ☒ Printers

< Back Next > Cancel

- Click **Select and run...** to choose source installation for repackaging.

The screenshot shows the 'Capture installation' window with the 'Installation' tab selected. The progress bar at the top indicates the following steps: Prepare computer (checked), Capturing method (checked), Settings (checked), Installation (active), and Completion. The main heading is 'Install your applications now'. Below it, a text block states: 'Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.' Below this text is a button labeled 'Select and run...'. Under the heading 'Detected MSI Installation', there is a table with columns 'State', 'Copied', and 'Name'. The table is currently empty. Below the table, a note states: 'Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.' Below the note, another text block states: 'Once the installation is completed, select "I have finished the installation" and click "Next".' Below this text is a checkbox labeled 'I have finished the installation'. At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

Capture installation

Prepare computer Capturing method Settings **Installation** Completion

Install your applications now

Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.

Select and run...

Detected MSI Installation

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

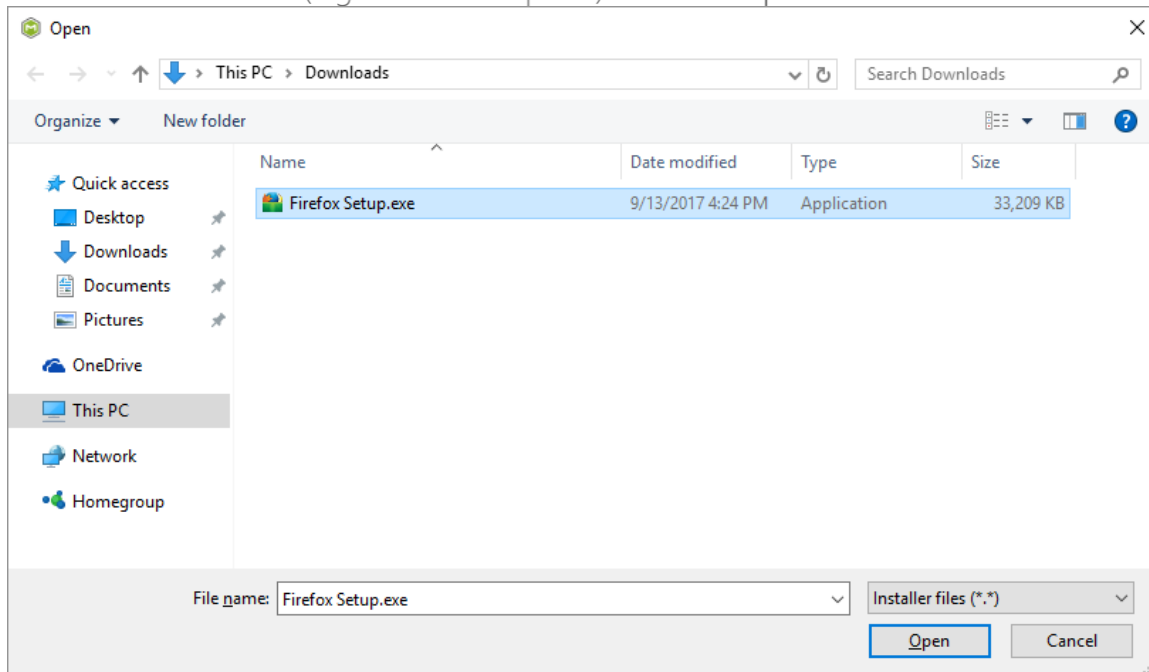
Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.

Once the installation is completed, select "I have finished the installation" and click "Next".

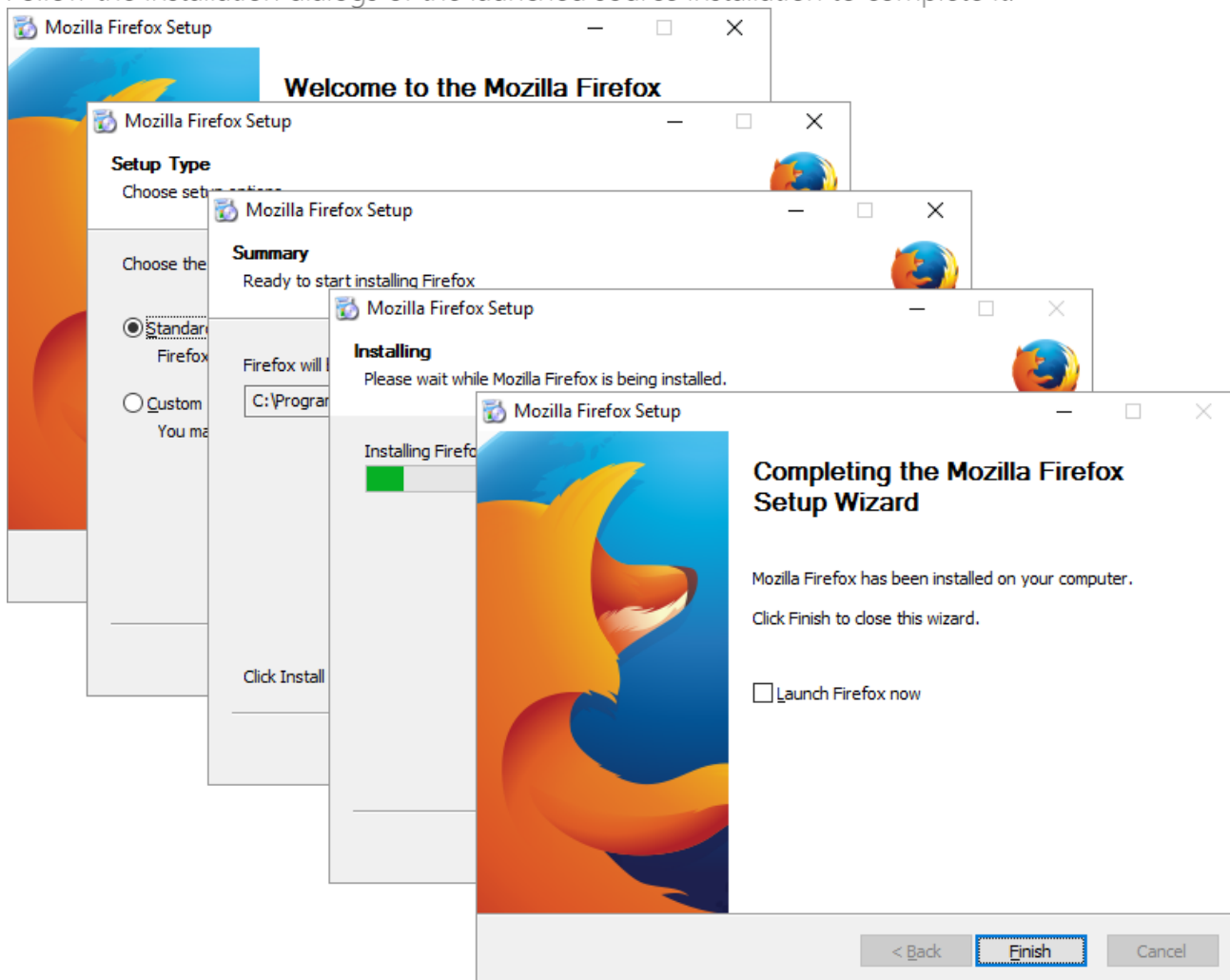
☐ I have finished the installation

< Back Next > Cancel

- Select the installer file (e.g. Firefox Setup.exe) and click Open.

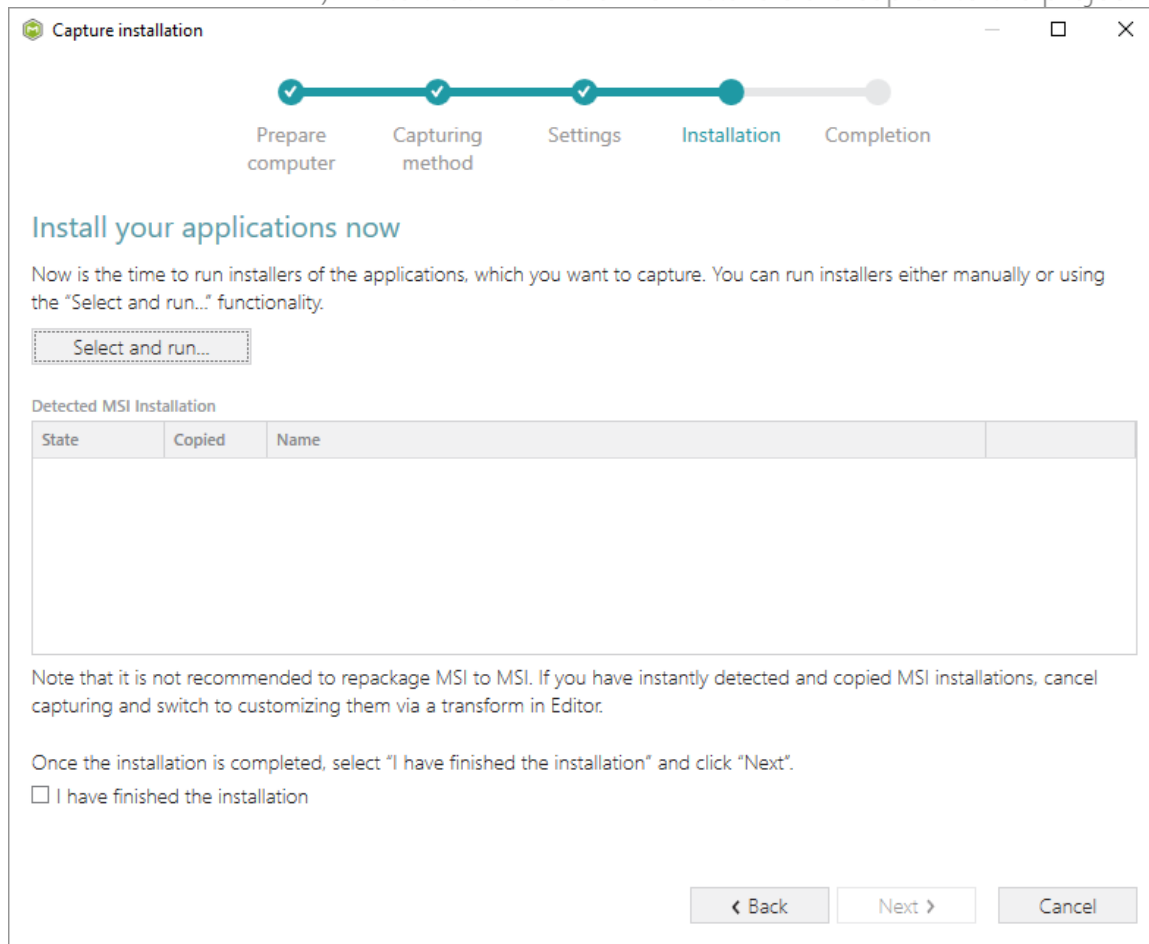


- Follow the installation dialogs of the launched source installation to complete it.



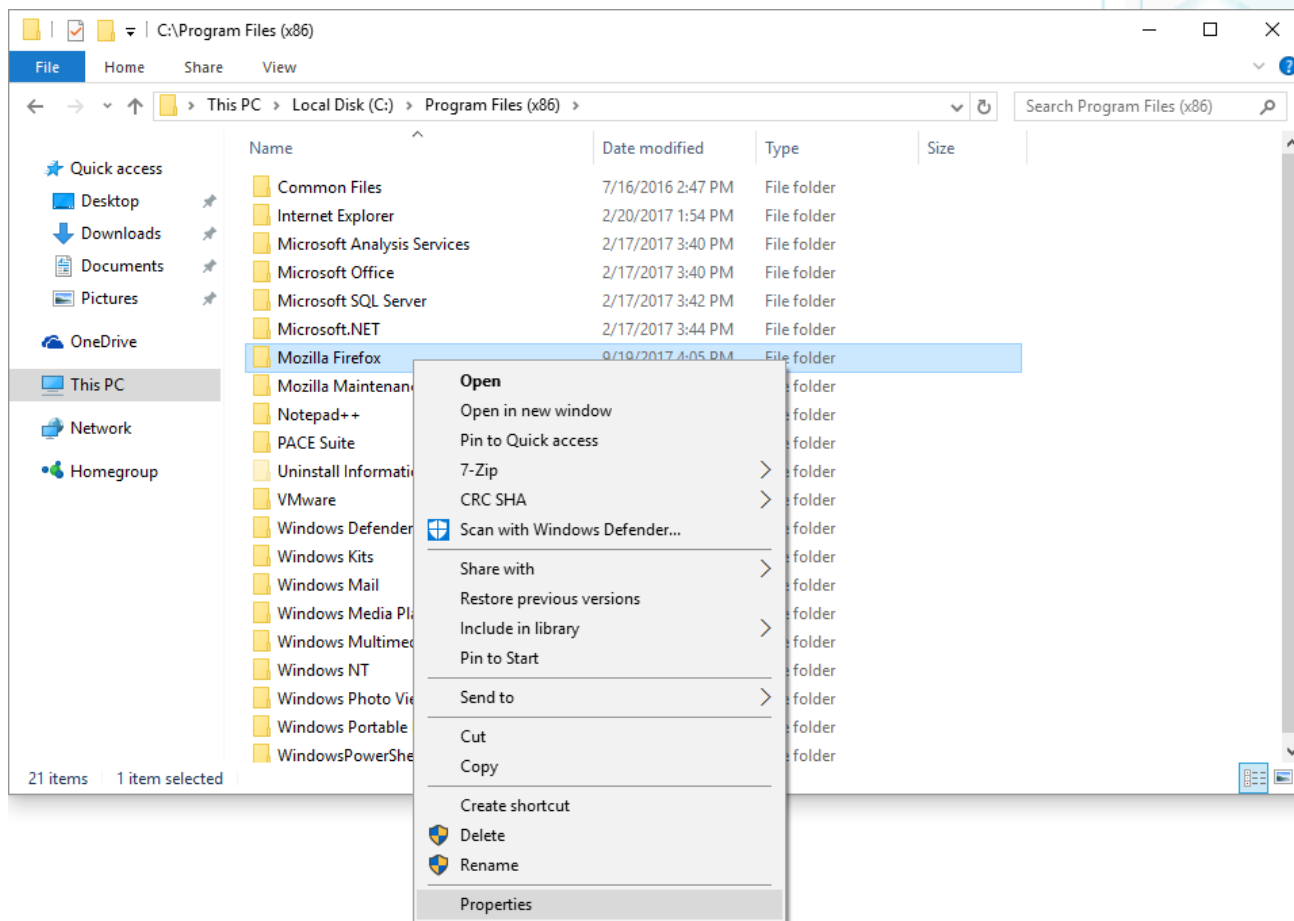
- Once the source installation is completed, we recommend to check if the Detected MSI installations tab does not contain found MSI installers. Even if your sources installation is an EXE file, it could contain embedded MSI installers, launched hiddedly. As you may know, repackaging existing vendor MSI installers into MSI is against Microsoft best practices. Thus, if the Detected MSI installations tab contains a found MSI installer, consider canceling

this capturing (repackaging) process and switching to editing it in MSI Editor (Edit MSI/MST is described in section 3.7). Note that the found MSI installers are copied to the project folder.

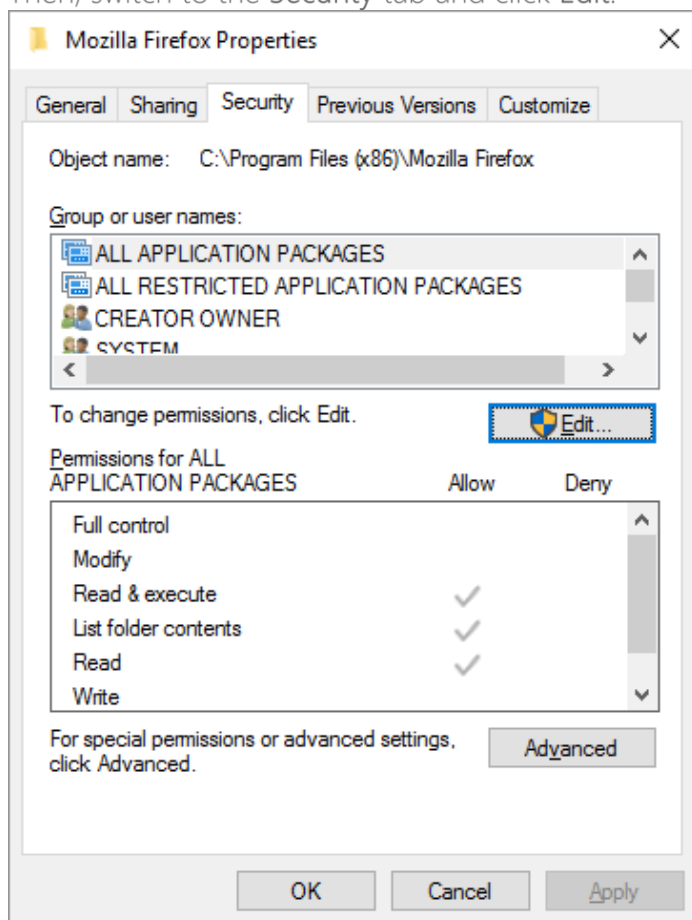


- Now you can make any additional changes to the file system and registry, which you want to capture along with source installation and include to the package. For instance, you can copy or edit configuration files, import REG file to the system registry, change file, folder permissions, or launch the installed application in order to capture the necessary application configurations, like disabling updates and so on.

In case of necessity, to change the default permission settings for a folder or a file, select **Properties** from the Windows Explorer context menu of a folder, for which you want to set new permissions.

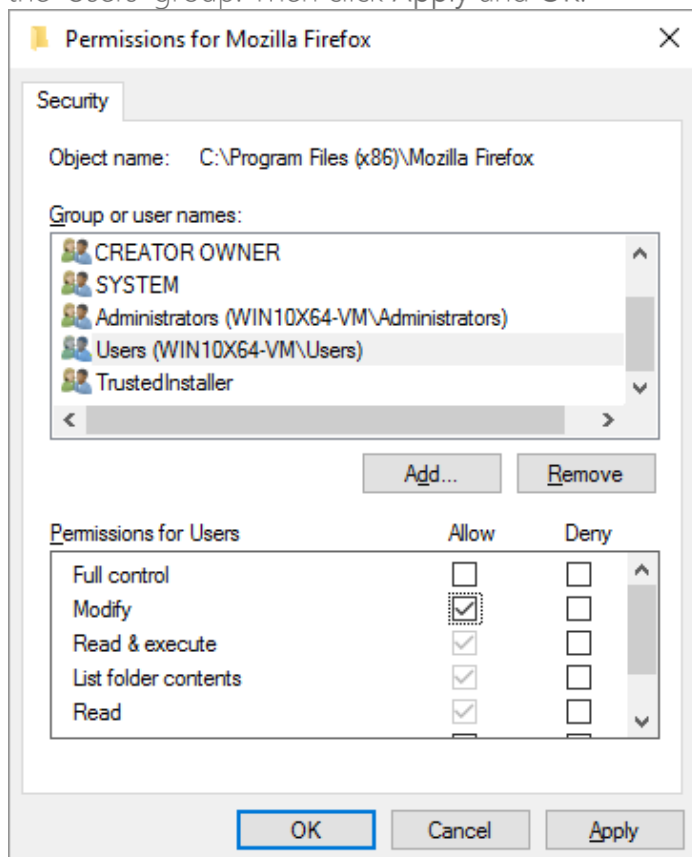


Then, switch to the Security tab and click Edit.

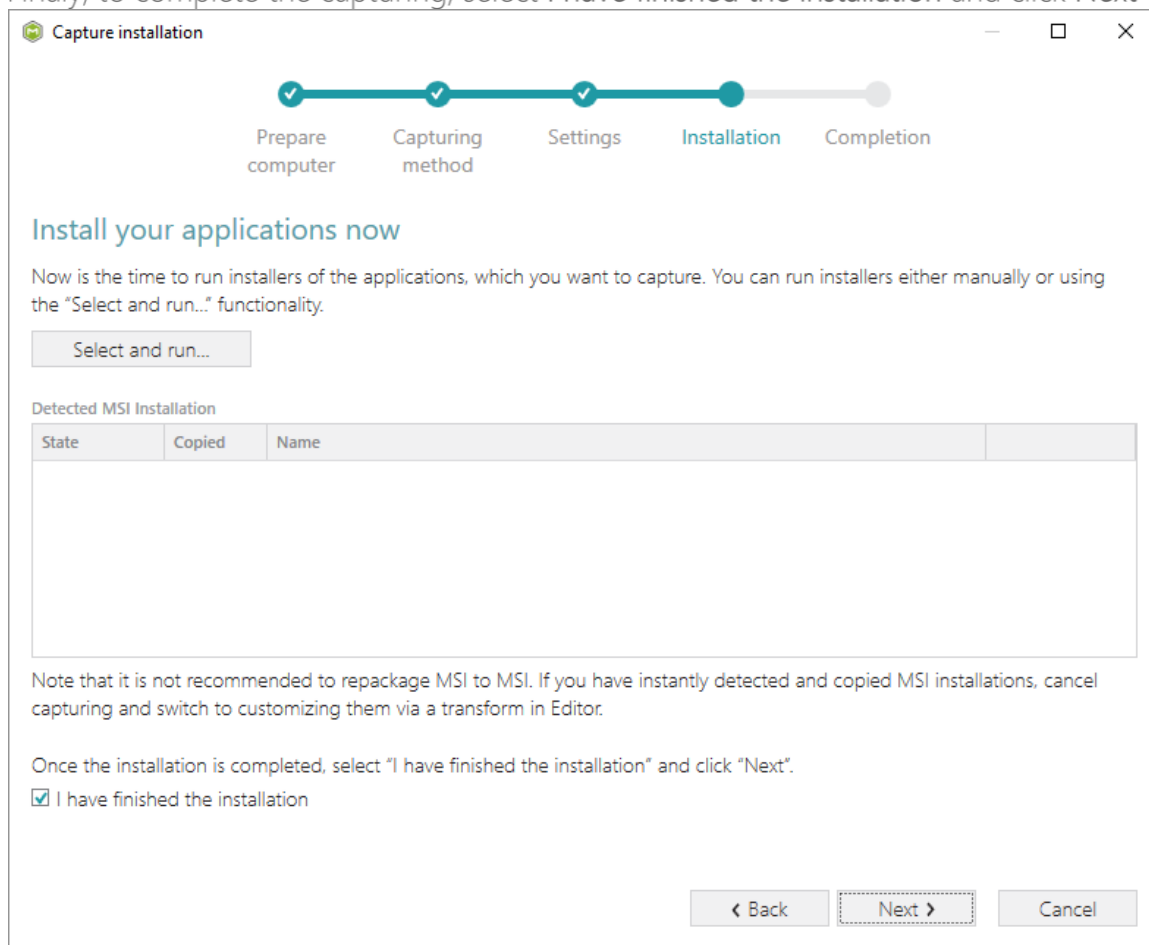


And select a group or a user, for which you want to change the permissions and then select the necessary access rights. For example, let's set the 'Write' and the 'Modify' access rights for

the 'Users' group. Then click Apply and OK.



- Finally, to complete the capturing, select I have finished the installation and click Next >.



- Wait a little, while the capturing process is finishing, filtering captured data and creating the project.

Capture installation

✓

✓

✓

●

○

Prepare computer

Capturing method

Settings

Installation

Completion

Install your applications now

Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.

Select and run...

Detected MSI Installation

State	Copied	Name

Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.

Once the installation is completed, select "I have finished the installation" and click "Next".

☒ I have finished the installation

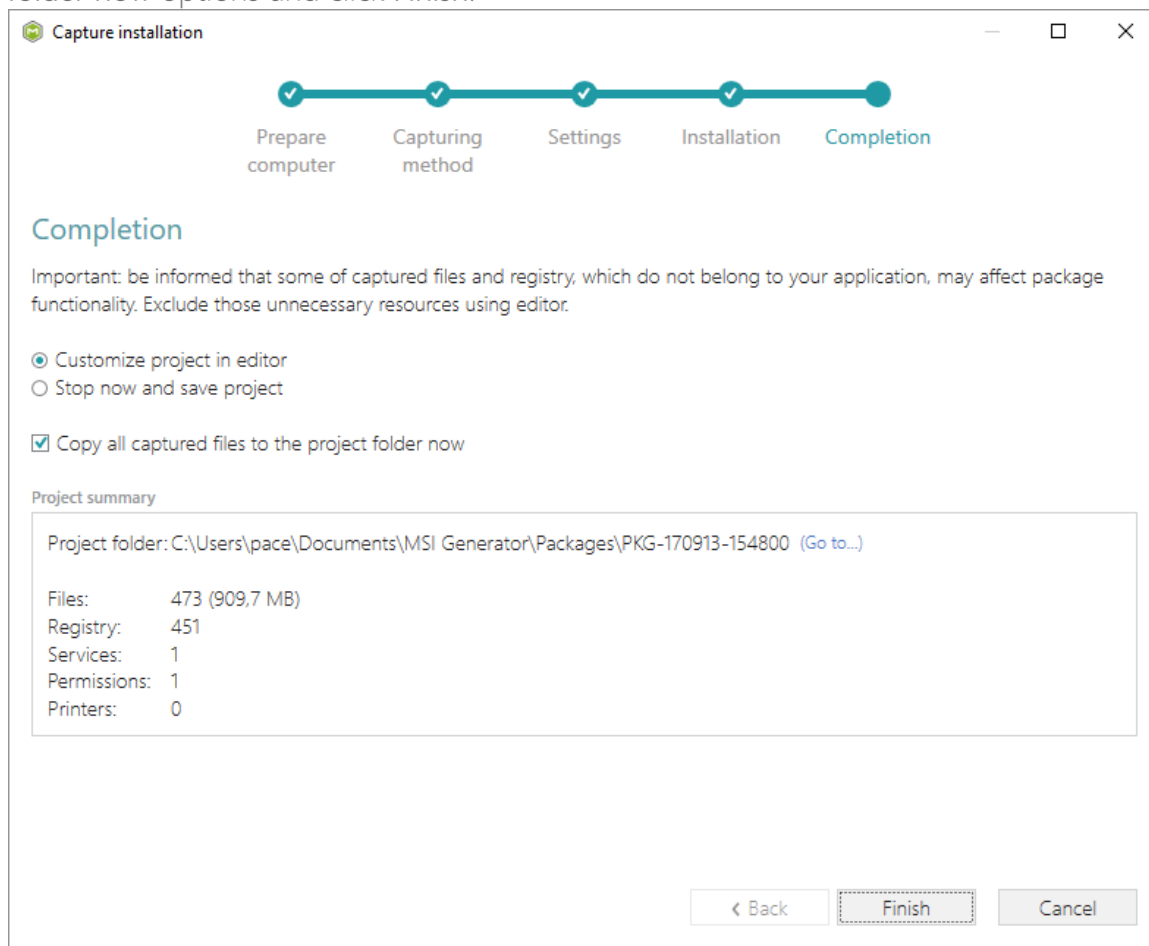
00:08 Scanning Services

< Back

Next >

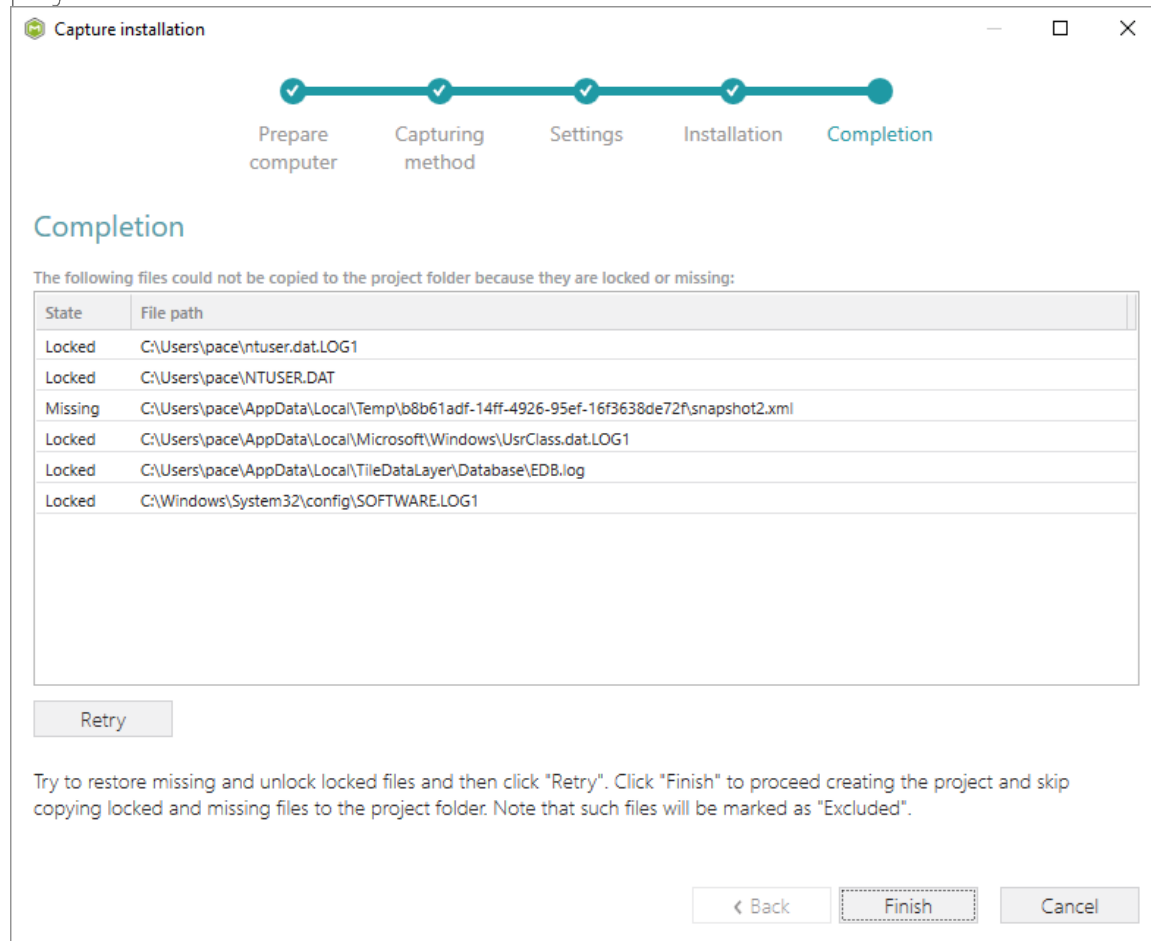
Cancel

- Leave selected both the Customize project in editor and Copy all captured files to the project folder now options and click Finish.



- If some of captured files are locked or missing and as result they could not be copied to the project folder, they will be displayed as illustrated below. Usually, the displayed files are system noise and do not refer to the captured application. Click **Finish** to continue with skipping locked and missing files. Note that such files will be automatically marked as 'Excluded' in your

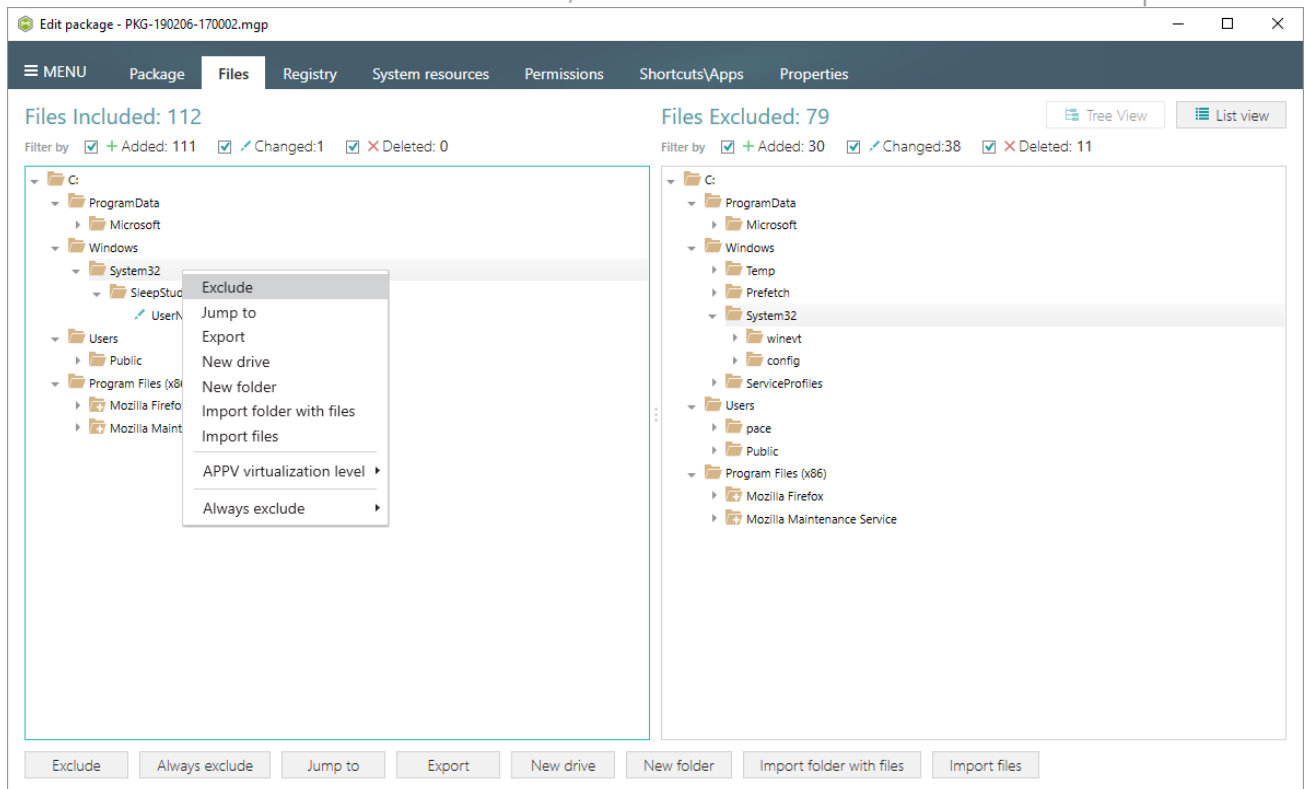
project.



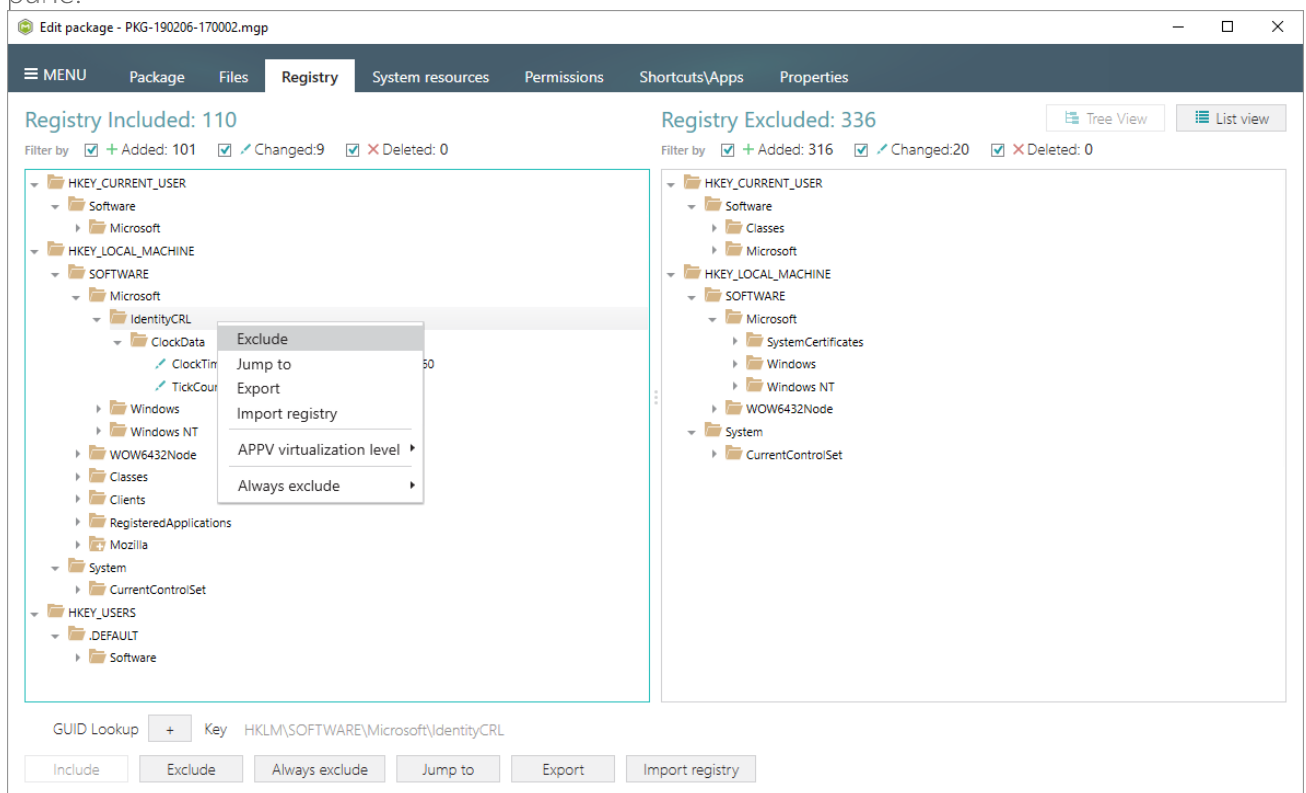
- Once the project is opened in the project editor, it is strongly recommended to review the Files, Registry, System resources, Permissions, and Shortcuts\Apps tabs and exclude the accidentally captured resources, which do not belong to the application. Such accidentally captured resources are also called system noise and it could be Windows Updates, Search indexing, Antivirus software and so on.

An MSI package with such resources may fail during the installation. The common reason for such fails is trying to write a registry value to the system-protected location, strongly prohibited from writing by third-party installations.

- In order to review and exclude unnecessary files or folders, go to the Files tab, and select Exclude from the context menu of an item, which is located in the left 'Files Included' pane.

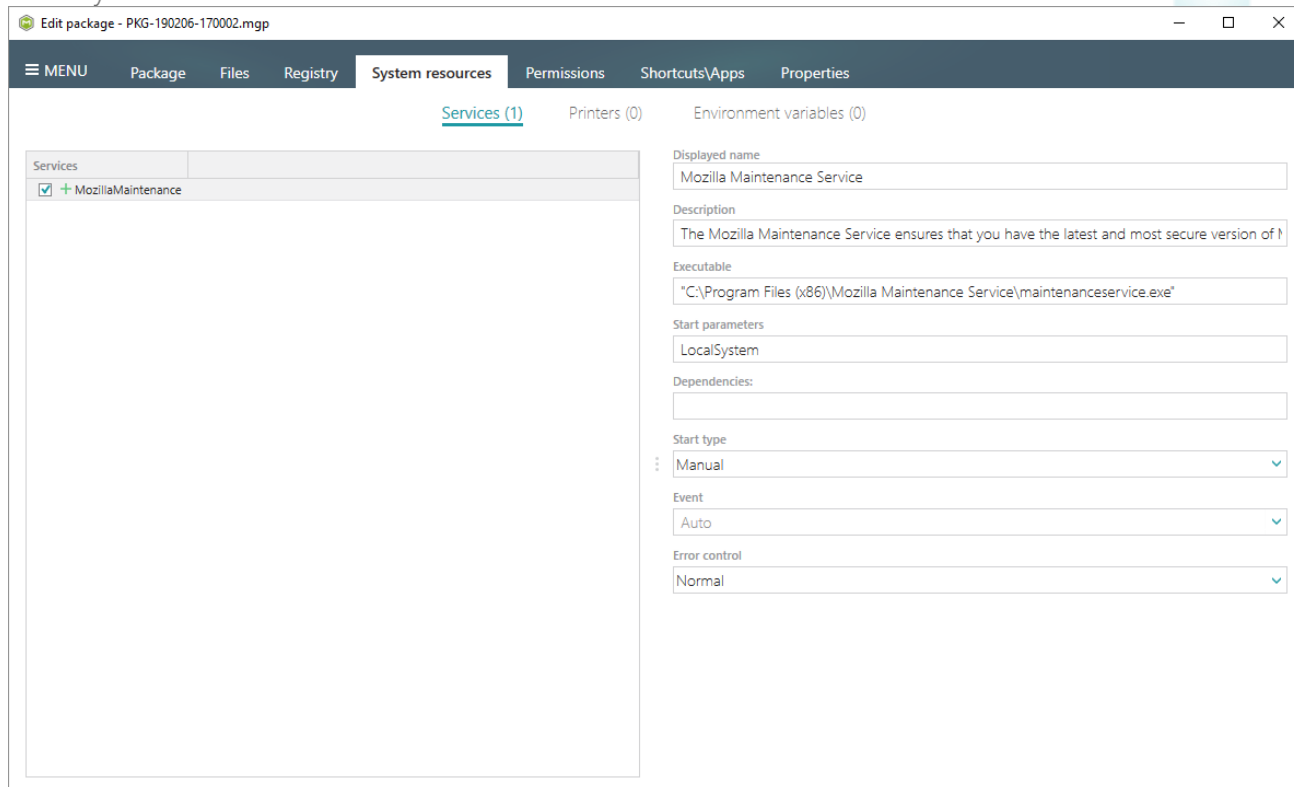


- In order to review and exclude unnecessary registry keys or values, go to the Registry tab, and select Exclude from the context menu of an item, which is located in the left 'Registry Included' pane.

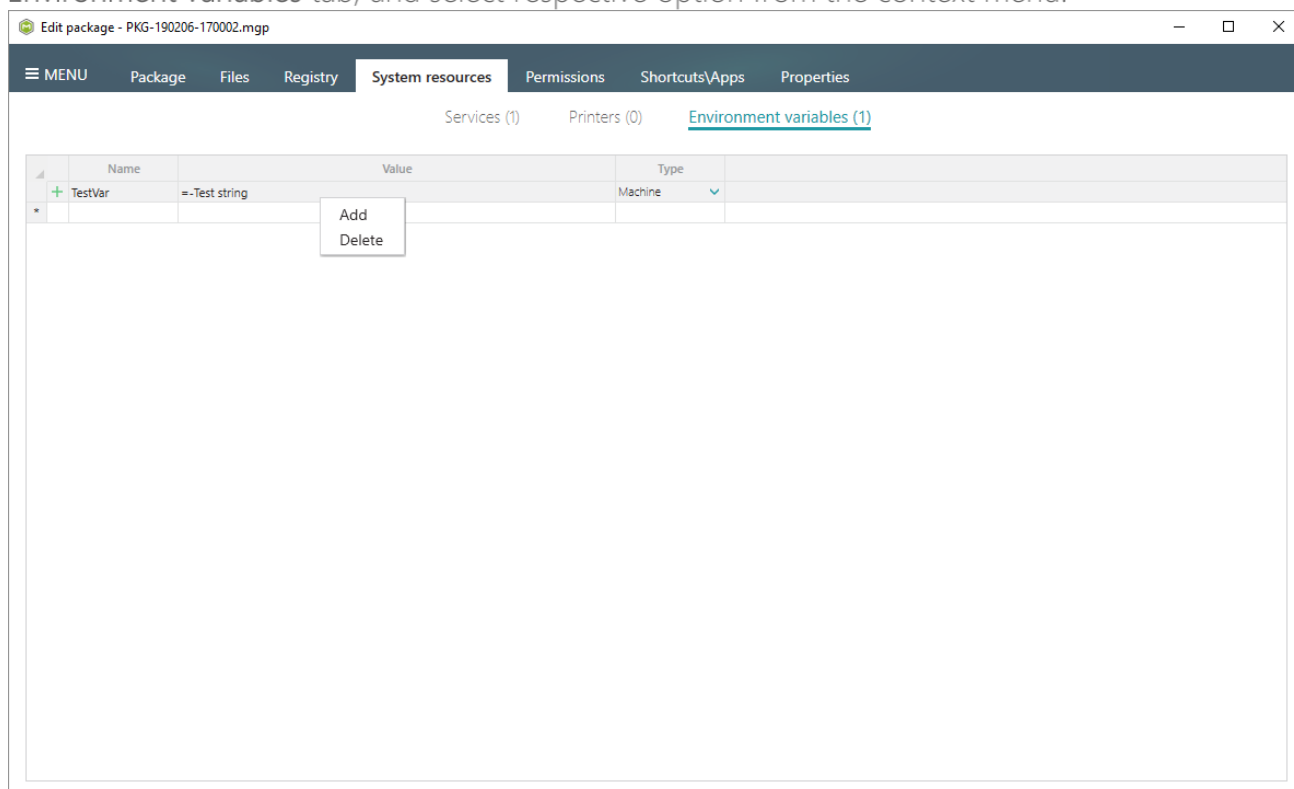


- In order to review and exclude unnecessary services, go to the System resources -> Services tab, and uncheck the checkbox, located before the service name in the list, for those services,

which you want to exclude.

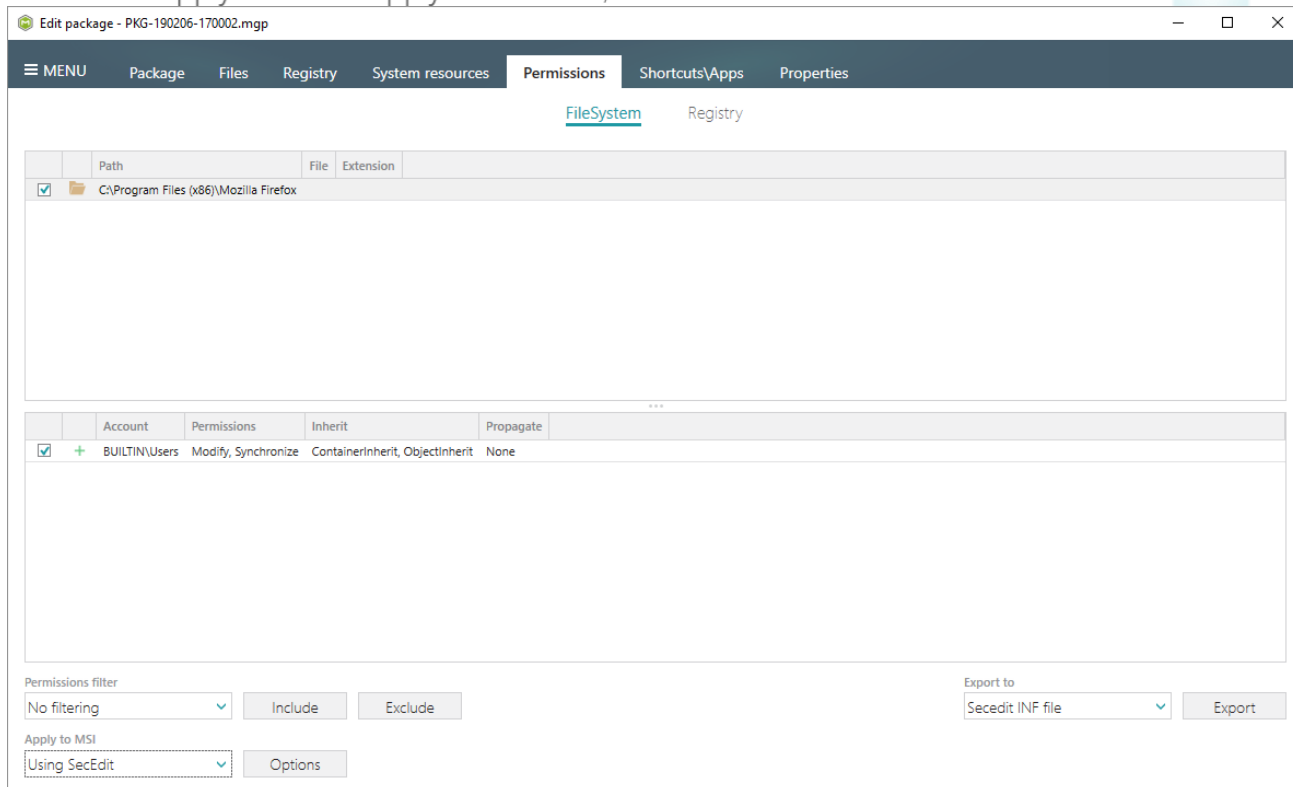


- In order to add and remove Environment variables, go to the System resources -> Environment variables tab, and select respective option from the context menu.

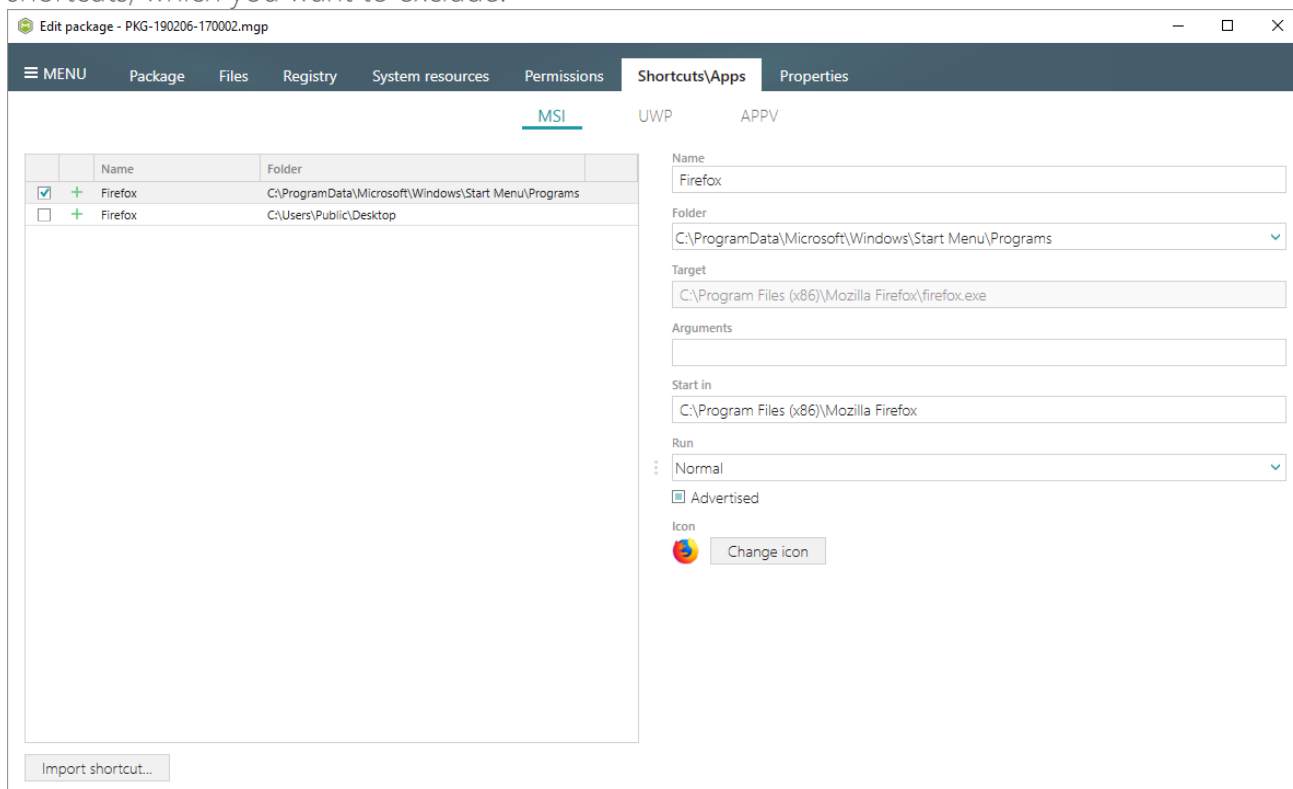


- On the Permissions tab you will find the captured permissions for the file system and registry. For excluding the unnecessary permission changes, either untick the each checkbox, located before the path, for which permission changes were detected, or to skip all permissions select

the Do not apply from the Apply to MSI field, located in the bottom of the window.



- In order to review and exclude the unnecessary MSI shortcuts, go to the **Shortcuts\Apps** -> **MSI** tab, and untick the checkbox, located before the shortcut name in the list, for those shortcuts, which you want to exclude.



- For managing **MSI Settings** such as application details, compression type, use of advertised tables, adding, active setup and the like, see section 3.8.6

- Once the package is built, click **Go to...**, located next to the MSI file name field, to open the package containing folder in Windows Explorer.

The screenshot shows the MSI Package Generator application window titled "Edit package - PKG-190206-170002.mgp". The interface has a dark blue header bar with navigation tabs: MENU, Package (selected), Files, Registry, System resources, Permissions, Shortcuts/Apps, and Properties.

Main Content Area:

- Application Details:** Includes fields for Application name (Firefox), Publisher (Mozilla), Version (63.0.3), Product language (1033), Product code (3A38FA11-81A1-4794-8857-AAC031359ABD), Upgrade code (AA66FB77-4086-4986-B795-7D7C938BA0ED), and a checked checkbox for "Generate new codes when build MSI".
- Summary Information:** Includes fields for Title (Installation Database), Subject, Author, Keywords (Install.MSI), Comments (This installer database contains the logic and data required to install <product name>.), Platform (Autodetect), and Languages (0).
- MSI Package Options:** Includes settings for MSI settings profile (default), MSI file name (C:\Users\pace\Documents\MSI Generator\Packages\PKG-1), MSI CodePage (Neutral), and INSTALDIR (C:\Program Files (x86)\Mozilla Firefox). There are "Browse..." and "Go to..." buttons for file paths.
- BUILD LOG:** A table showing detected MSI installations and their progress. It includes columns for Type, Elapsed time, and Step.

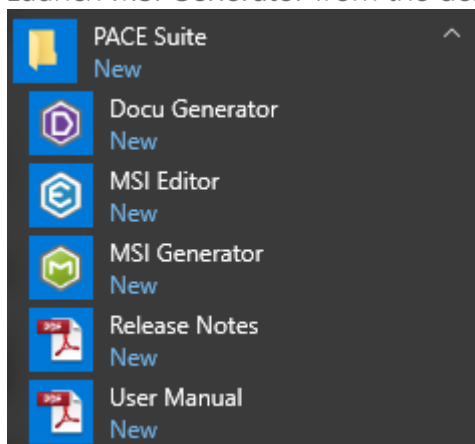
Type	Elapsed	Step
[Green Bar]	00:00:51	Operation was completed successfully
[Green Bar]	00:00:51	Writing data to the _Validation table
[Green Bar]	00:00:51	Writing data to the CreateFolder table
[Green Bar]	00:00:51	Writing data to the AdvtExecuteSequence table
[Green Bar]	00:00:51	Writing data to the InstallExecuteSequence table
[Green Bar]	00:00:51	Writing data to the CustomAction table
[Green Bar]	00:00:51	Writing data to the MsiAssemblyName table
[Green Bar]	00:00:51	Writing data to the MsiAssembly table
[Green Bar]	00:00:49	Importing cabinet (CAB) file into the MSI - "PKG191_1.cab"
[Green Bar]	00:00:49	Writing data to the Media table
[Green Bar]	00:00:48	Writing data to the Verb table
[Green Bar]	00:00:48	Writing data to the MIME table

At the bottom right, there are two buttons: "Open MSI" and "Build MSI".

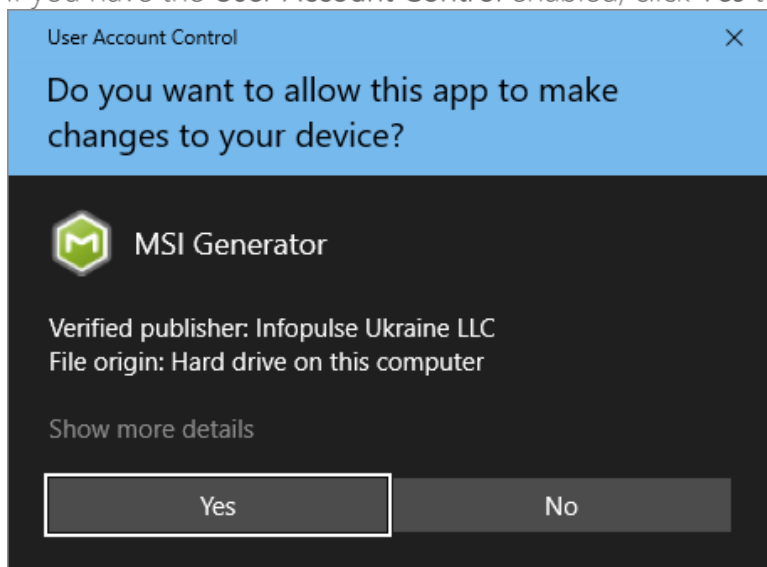
3.1.3 Capture System Changes to MSI

Capture system changes, which were made to the file system and registry, by script, by application or manually and save them into MSI package using MSI Generator. Along with files and registry, services and environment variables, you can capture the modified permissions to the file system and registry.

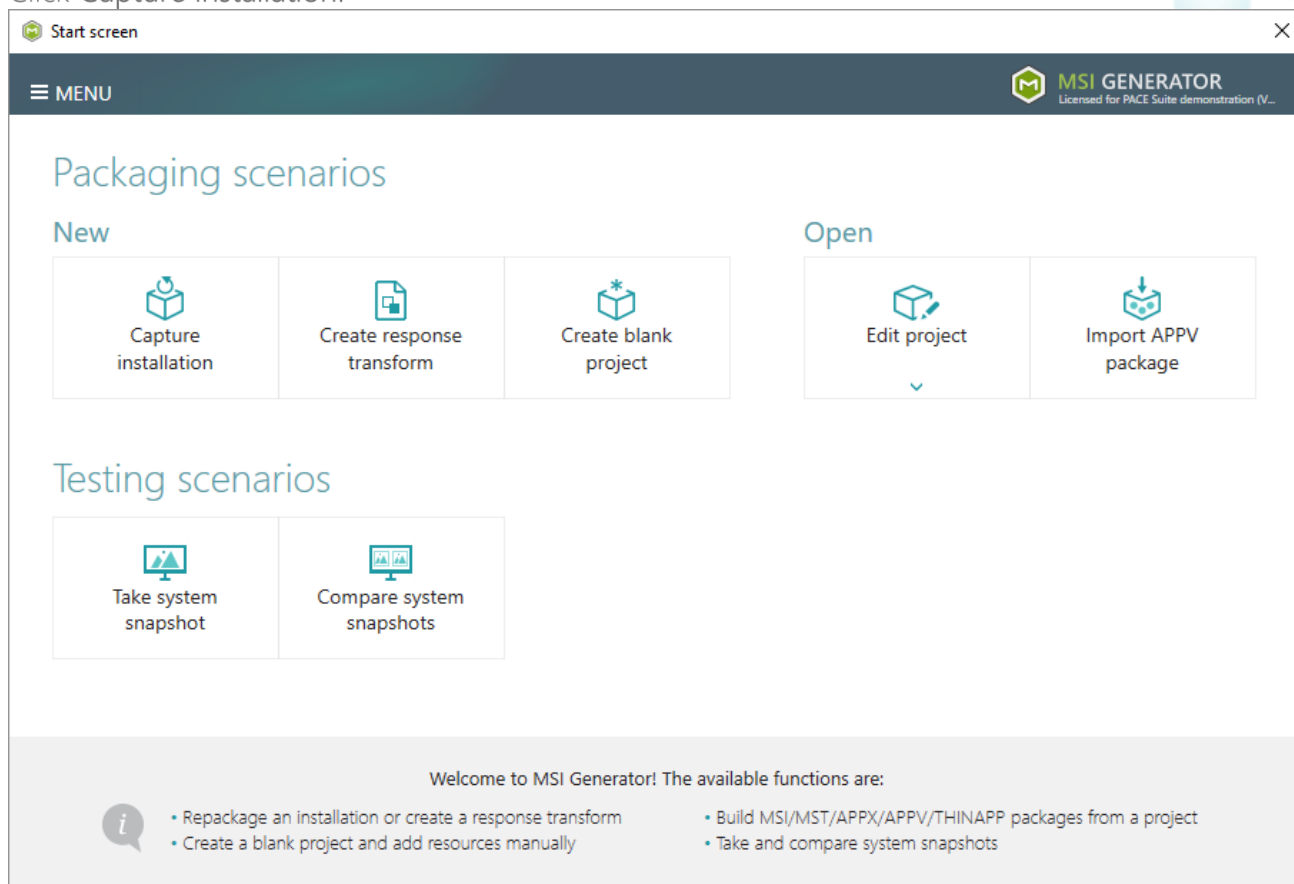
- Launch MSI Generator from the desktop of the start menu shortcut.



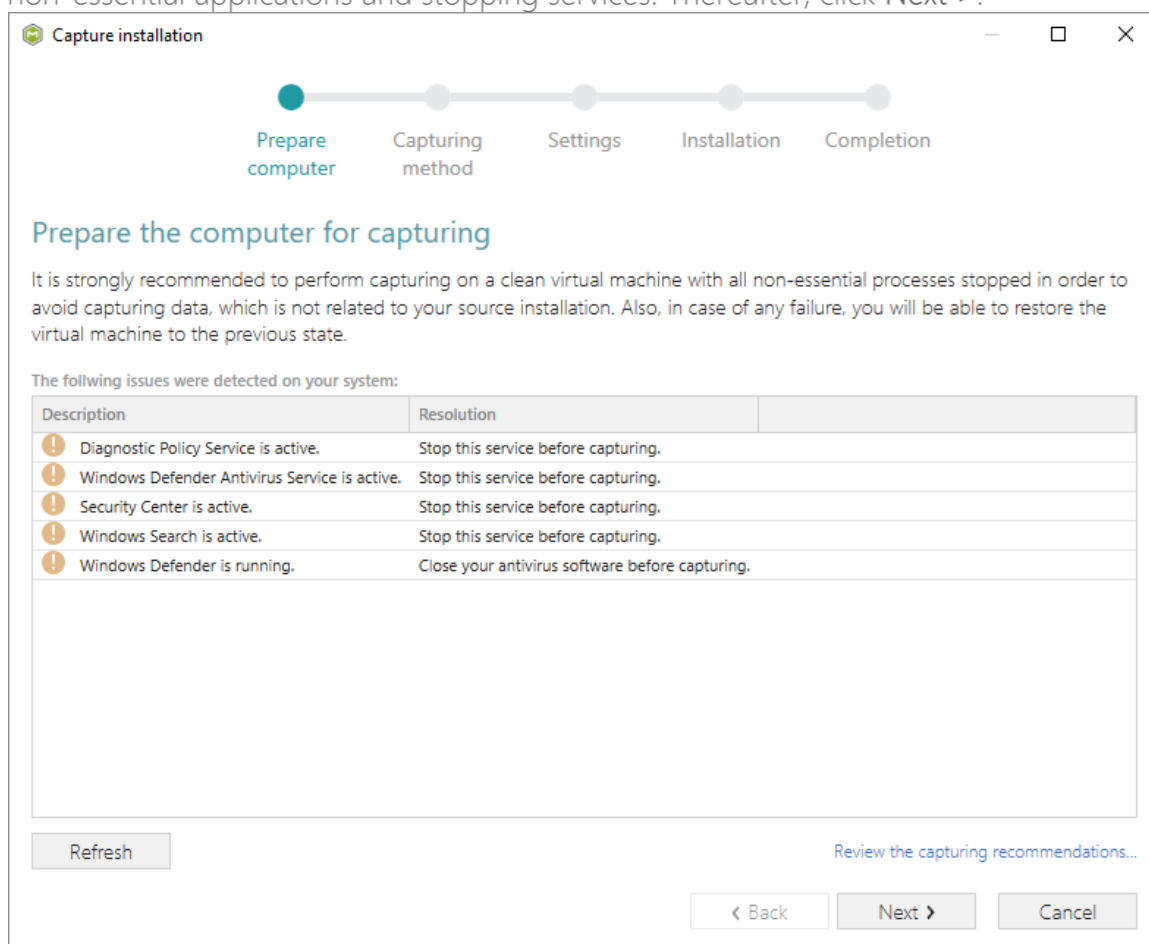
- If you have the User Account Control enabled, click Yes to launch the application.



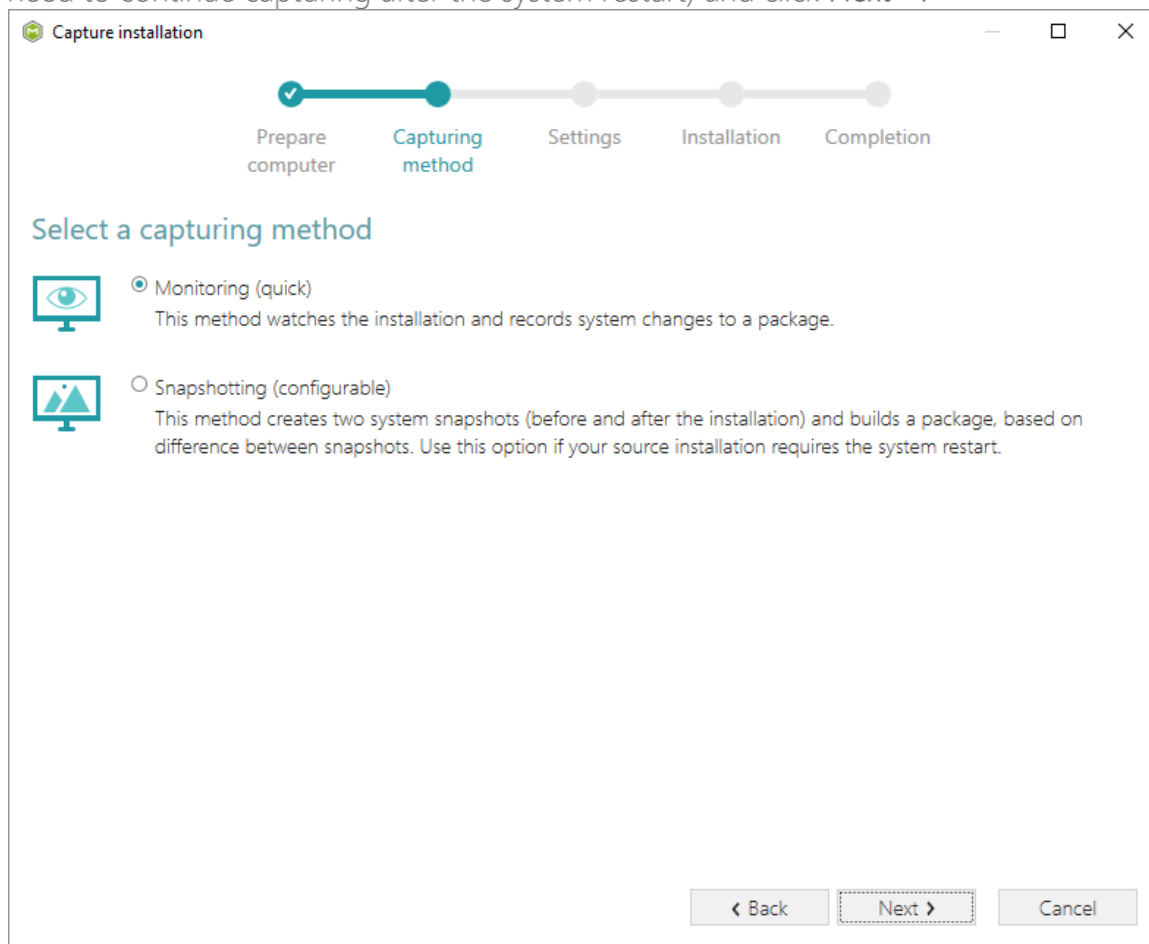
- Click Capture installation.



- Review the issues, which were detected on your system, and try to resolve them by closing the non-essential applications and stopping services. Thereafter, click Next >.



- Select the **Monitoring** method for the quicker capturing (or use the **Snapshotting** one if you need to continue capturing after the system restart) and click **Next >**.



- Review and update package name. If needed, disable unnecessary exclusion filters and scanning areas. Click **Next >** to start the capturing.

Capture installation

Prepare computer Capturing method **Settings** Installation Completion

Settings

Package name
PKG-170912-154800

Exclusion filters

Apply the following filters to the captured resources:

- ☒ AllWindowsOS
- ☒ Win7
- ☒ Win8-10

Scanning areas

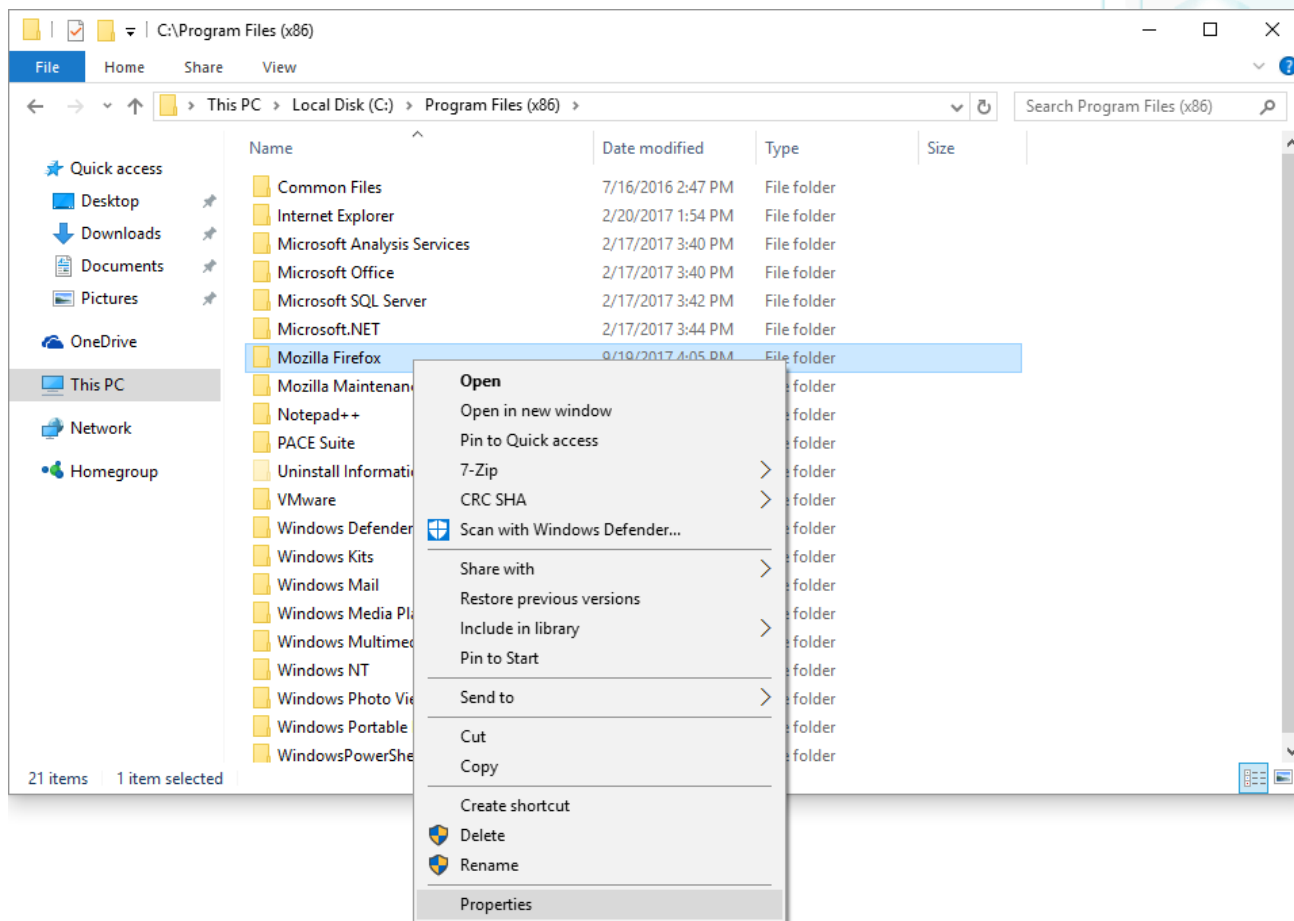
Application objects:

- ☒ Permissions
- ☒ Services
- ☒ Printers

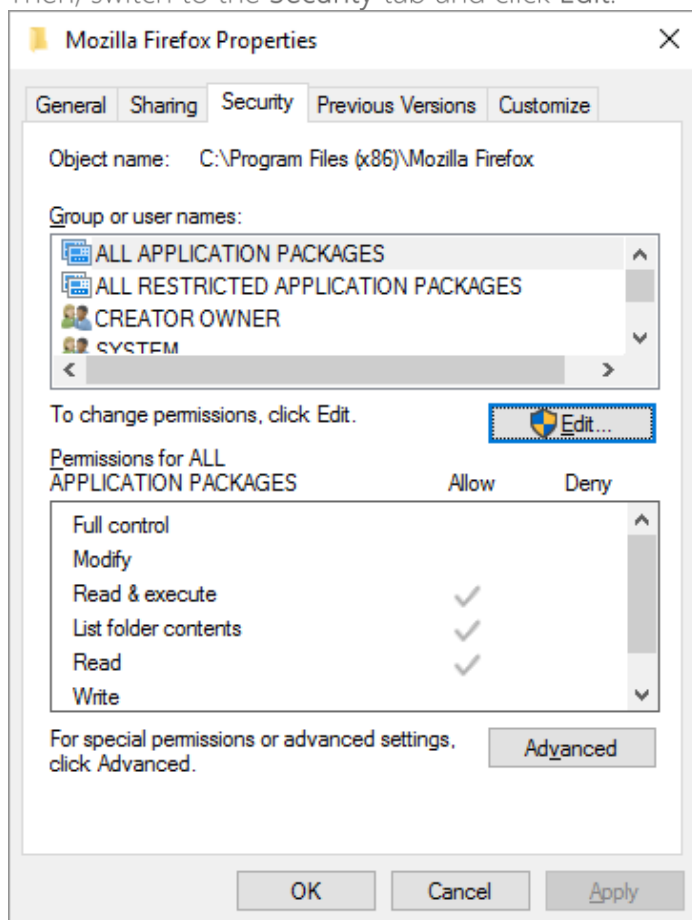
< Back **Next >** Cancel

- Now you can make any changes to the file system and registry, which you want to capture and include to the package. For instance, you can copy files, import REG file to the system registry, change file, folder permissions, or launch the installed application in order to capture the necessary application configurations, like disabling updates and so on.

In case of necessity, to change the default permission settings for a folder or a file, select **Properties** from the Windows Explorer context menu of a folder, for which you want to set new permissions.

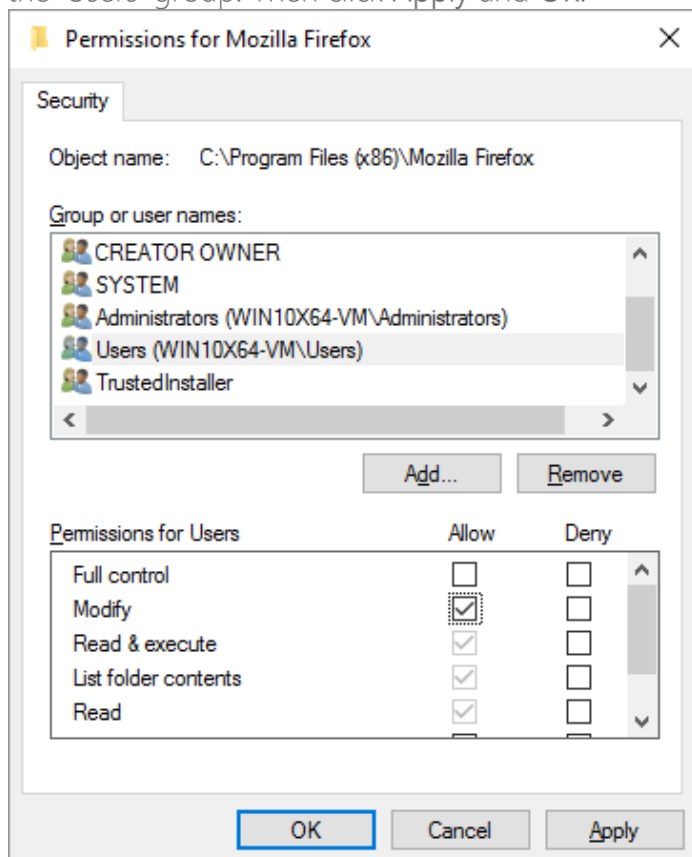


Then, switch to the Security tab and click Edit.

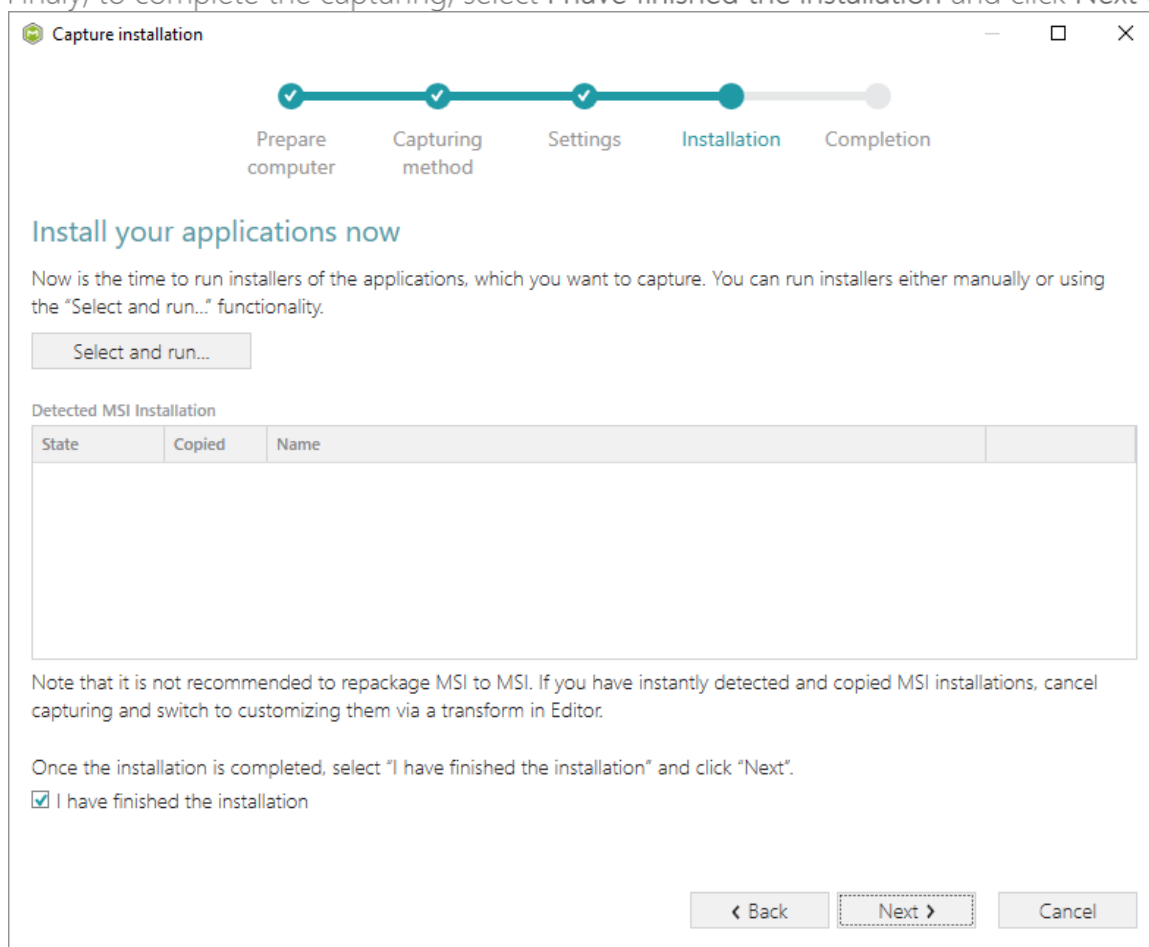


And select a group or a user, for which you want to change the permissions and then select the necessary access rights. For example, let's set the 'Write' and the 'Modify' access rights for

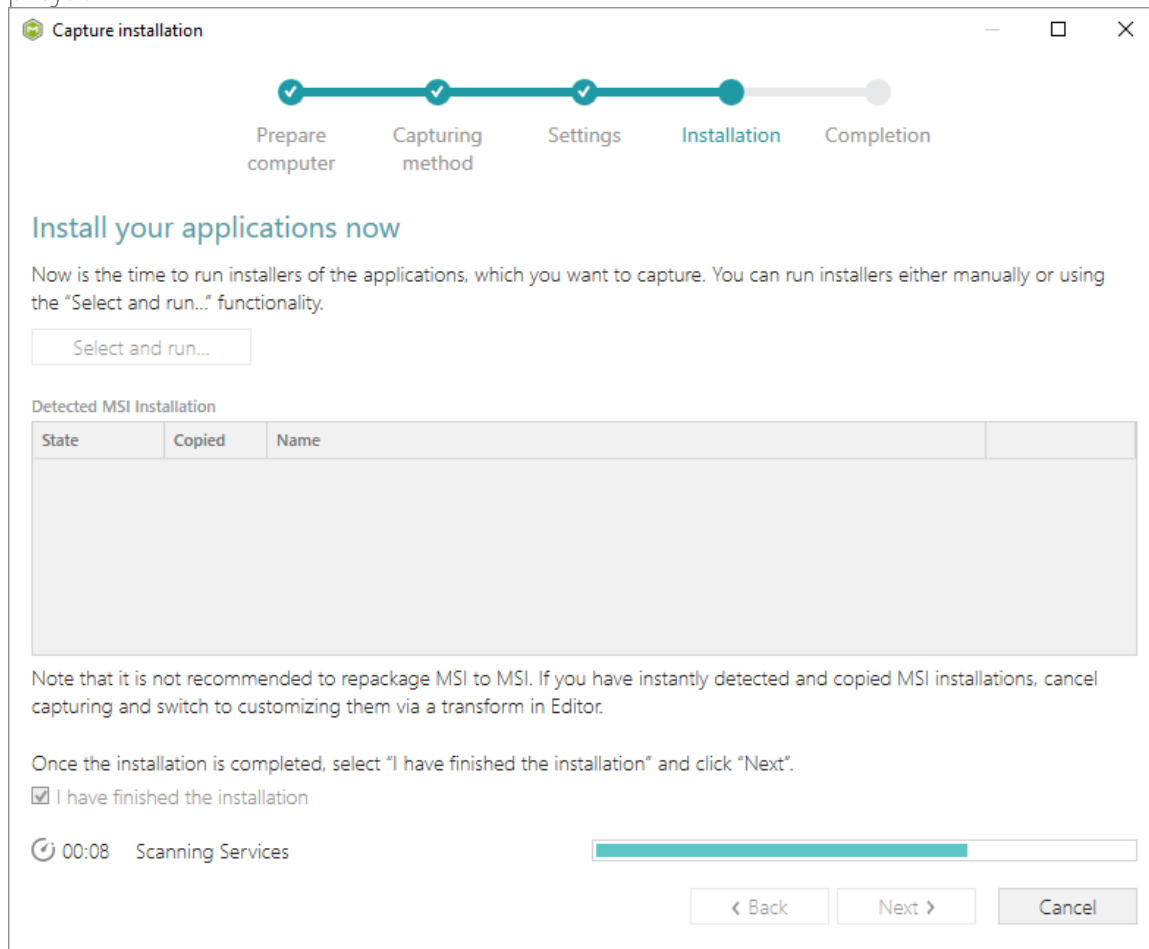
the 'Users' group. Then click Apply and OK.



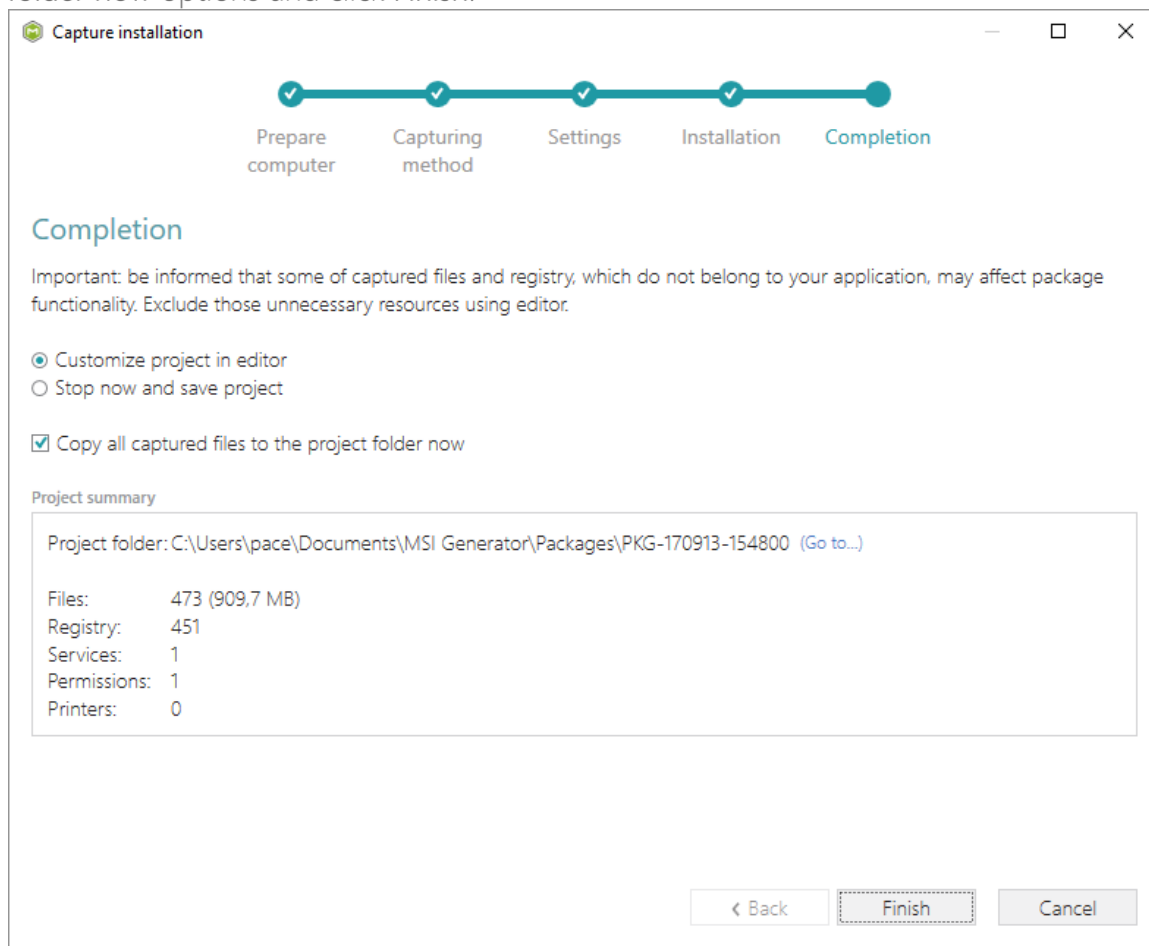
- Finally, to complete the capturing, select I have finished the installation and click Next >.



- Wait a little, while the capturing process is finishing, filtering captured data and creating the project.

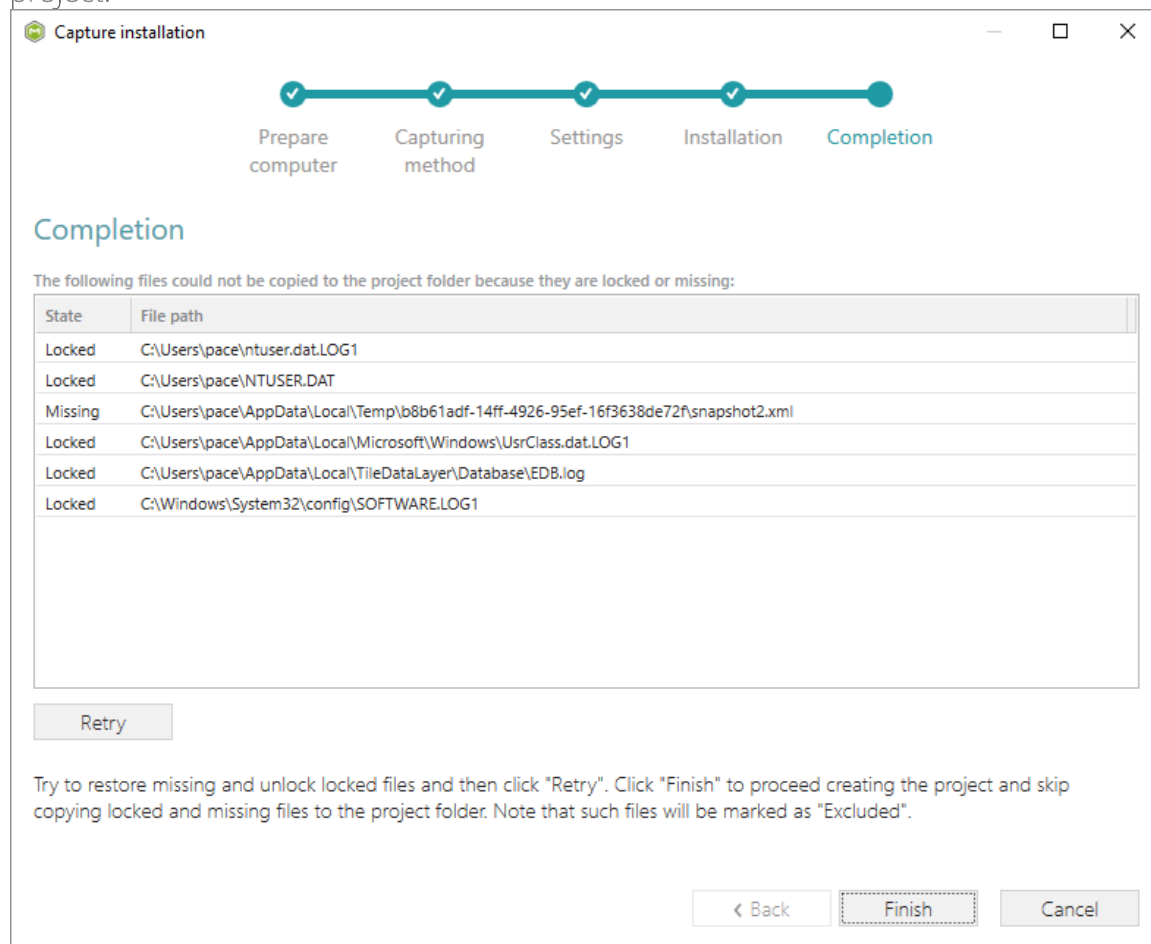


- Leave selected both the Customize project in editor and Copy all captured files to the project folder now options and click Finish.



- If some of captured files are locked or missing and as result they could not be copied to the project folder, they will be displayed as illustrated below. Usually, the displayed files are system noise and do not refer to the captured application. Click **Finish** to continue with skipping locked and missing files. Note that such files will be automatically marked as 'Excluded' in your

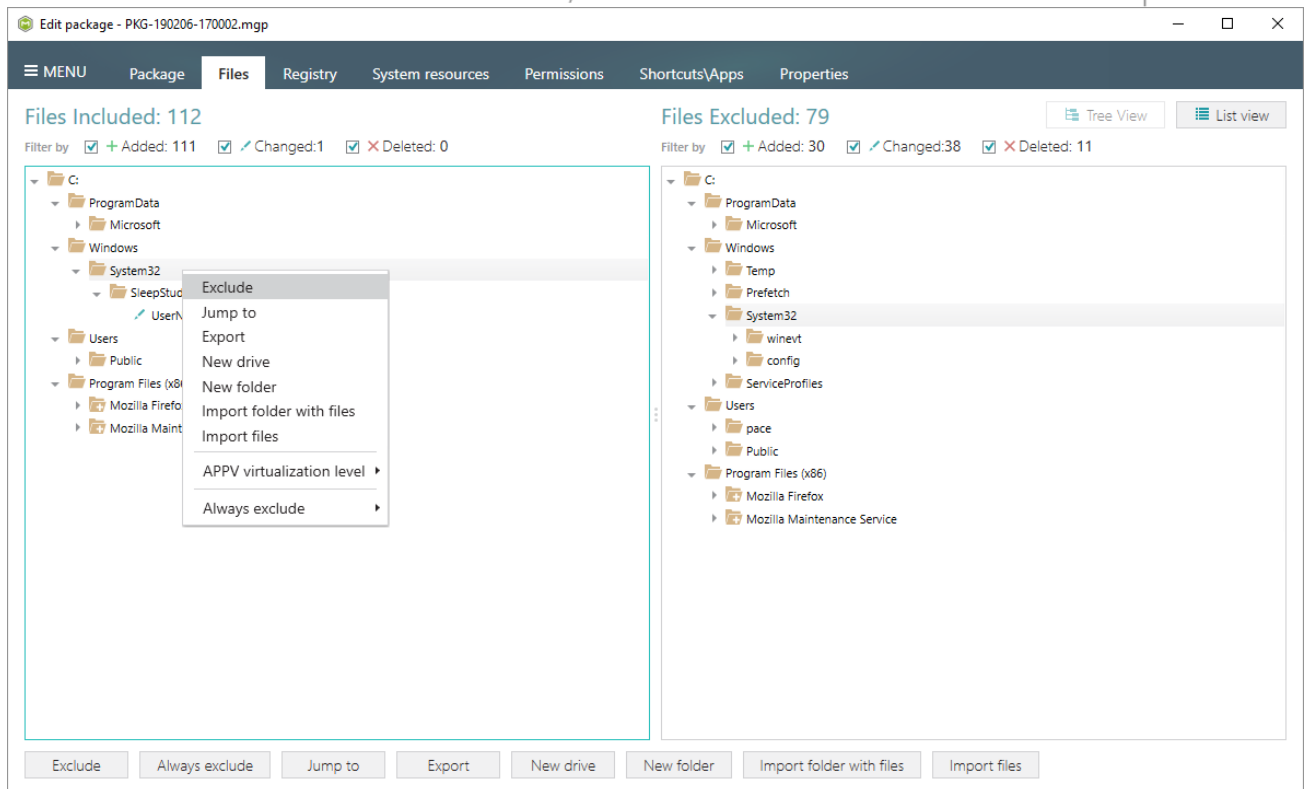
project.



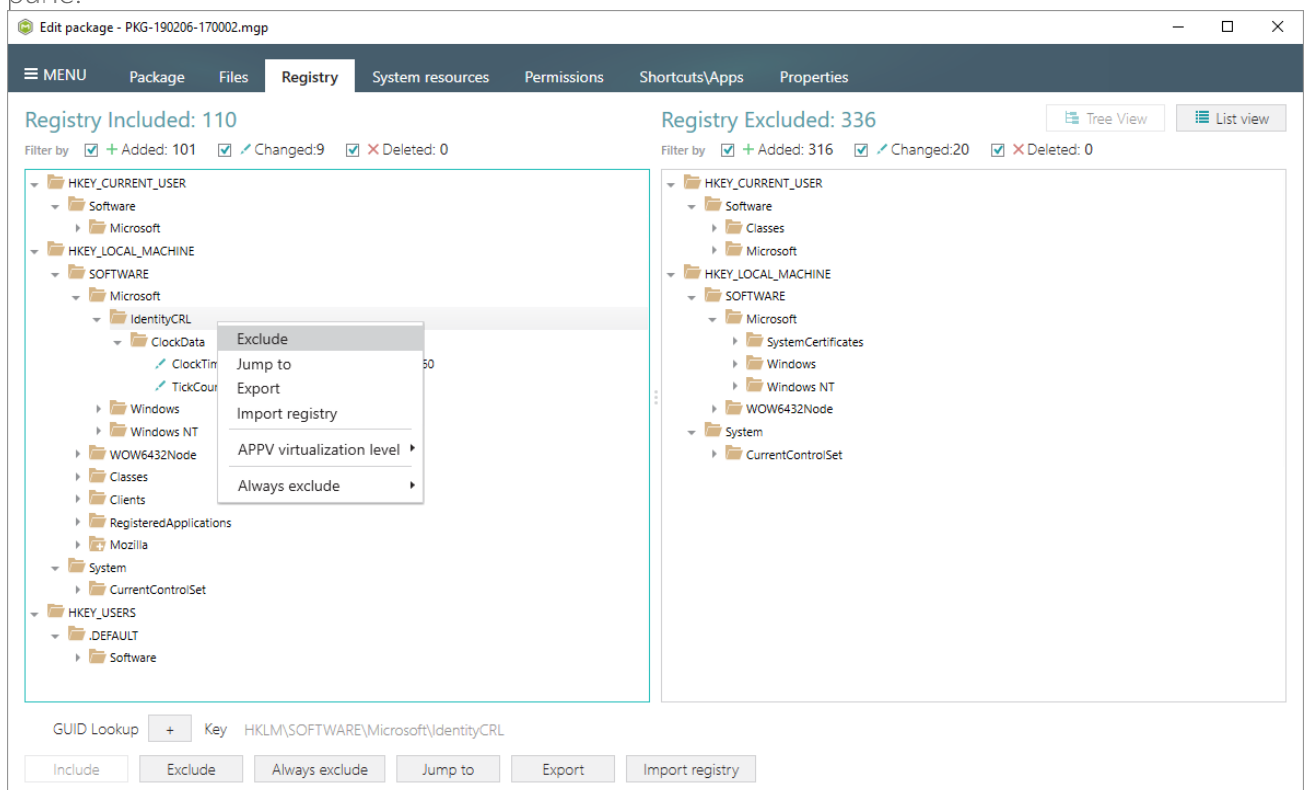
- Once the project is opened in the project editor, it is strongly recommended to review the Files, Registry, System resources, Permissions, and Shortcuts\Apps tabs and exclude the accidentally captured resources, which do not belong to the application. Such accidentally captured resources are also called system noise and it could be Windows Updates, Search indexing, Antivirus software and so on.

An MSI package with such resources may fail during the installation. The common reason for such fails is trying to write a registry value to the system-protected location, strongly prohibited from writing by third-party installations.

- In order to review and exclude unnecessary files or folders, go to the Files tab, and select Exclude from the context menu of an item, which is located in the left 'Files Included' pane.

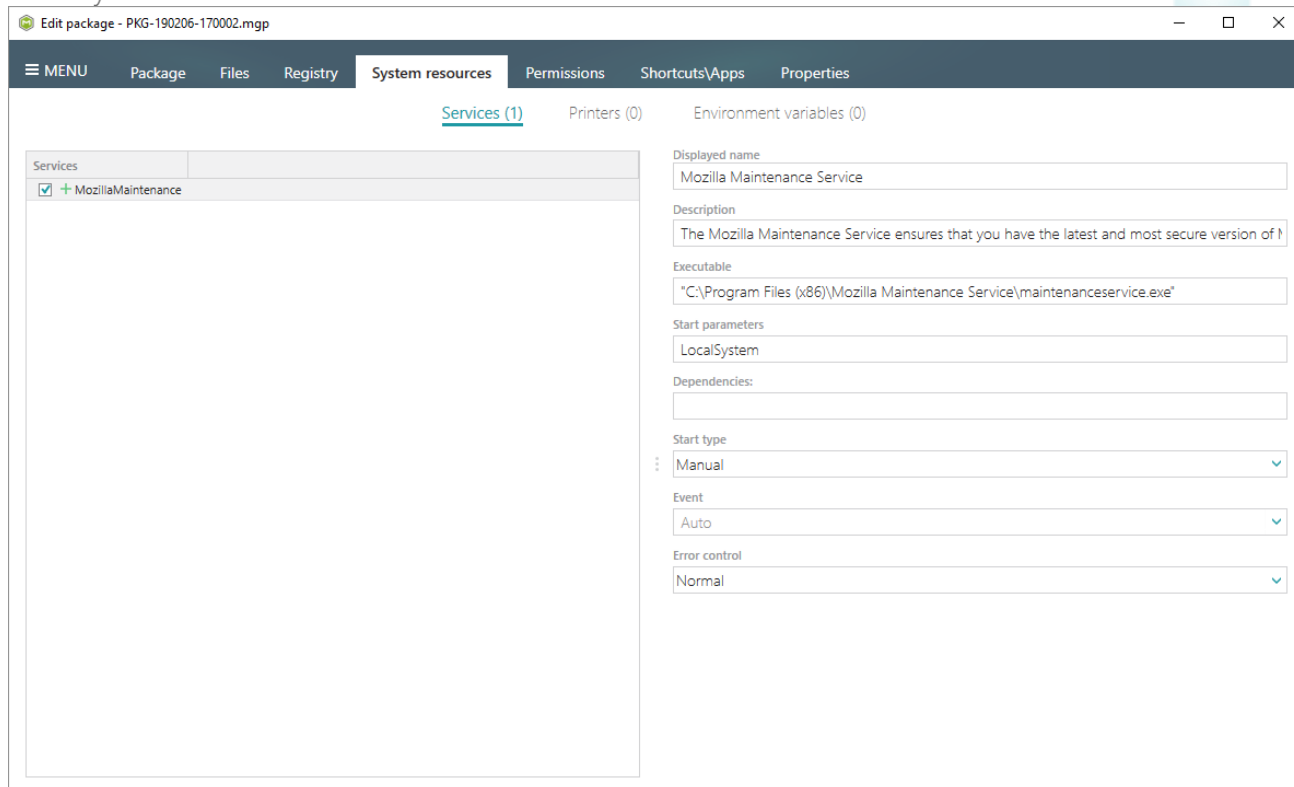


- In order to review and exclude unnecessary registry keys or values, go to the Registry tab, and select Exclude from the context menu of an item, which is located in the left 'Registry Included' pane.

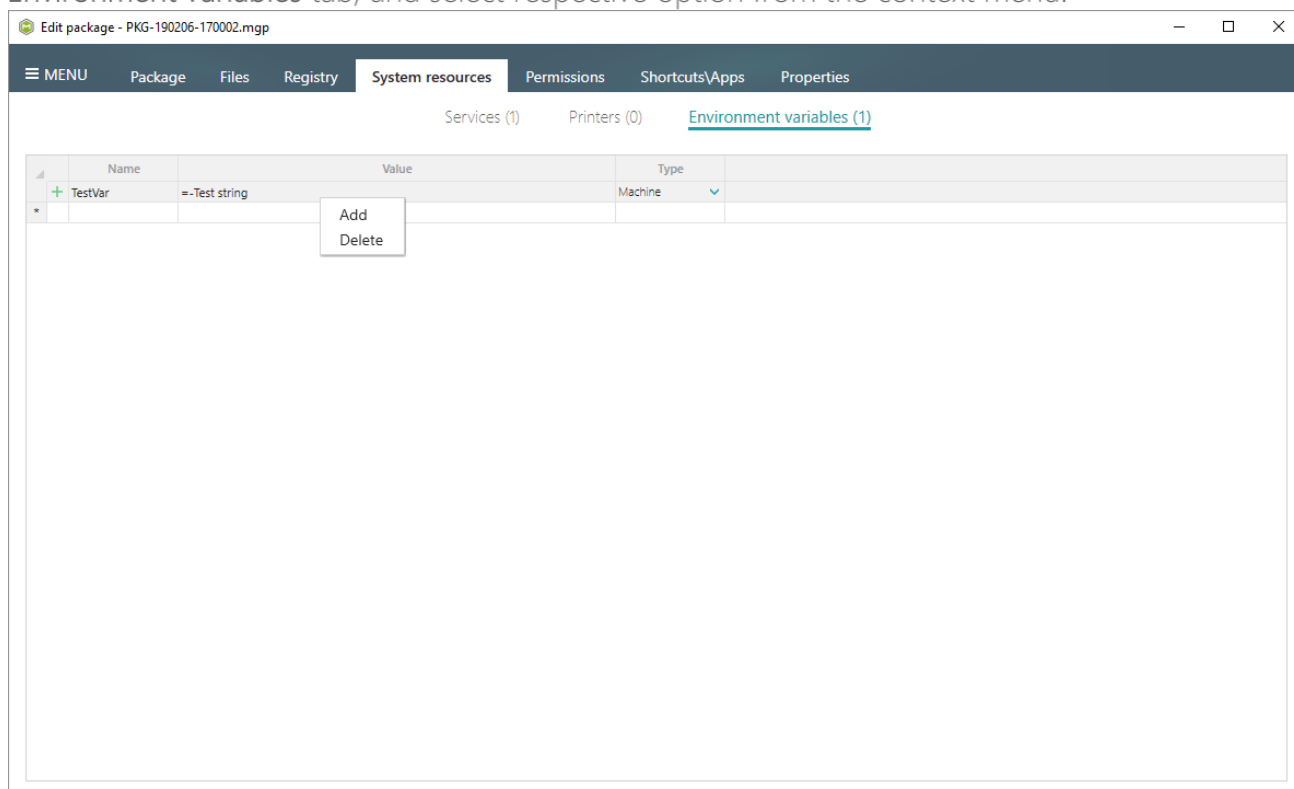


- In order to review and exclude unnecessary services, go to the System resources -> Services tab, and uncheck the checkbox, located before the service name in the list, for those services,

which you want to exclude.

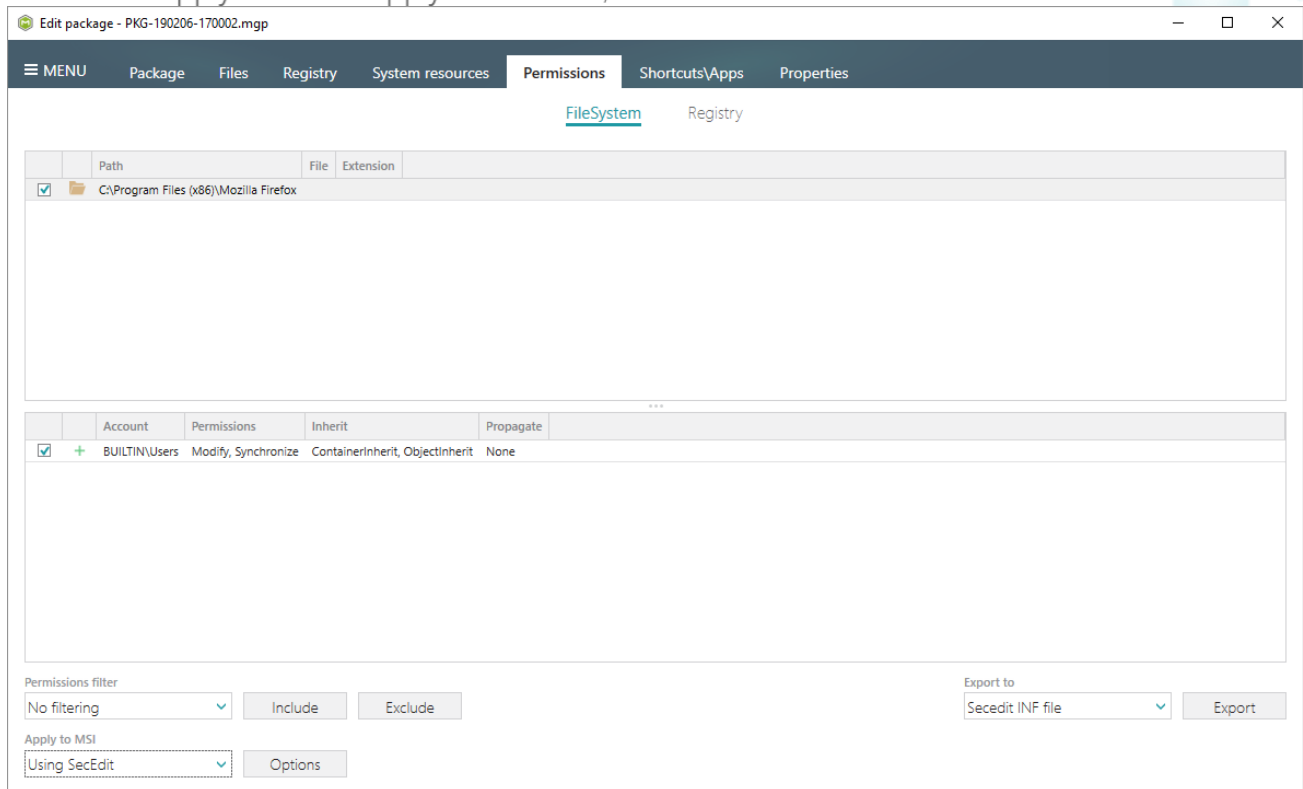


- In order to add and remove Environment variables, go to the System resources -> Environment variables tab, and select respective option from the context menu.

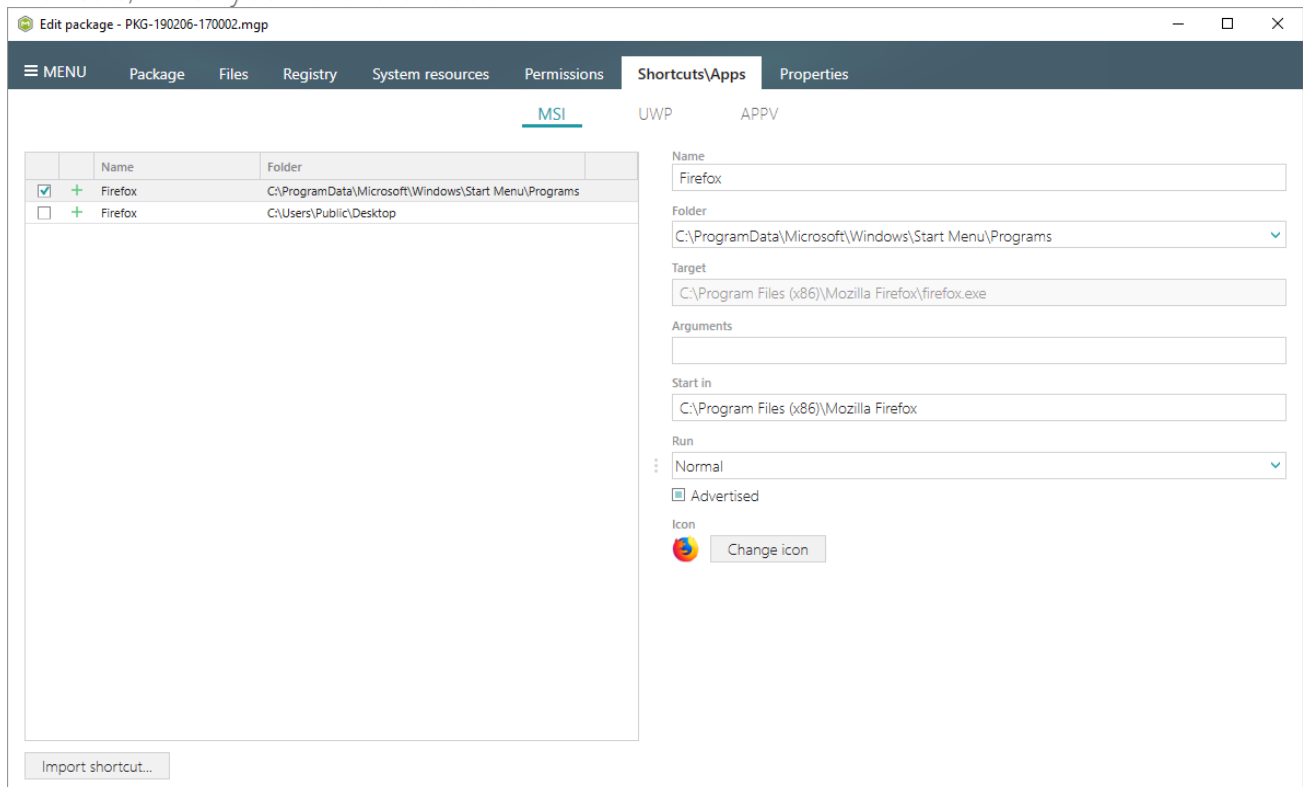


- On the Permissions tab you will find the captured permissions for the file system and registry. For excluding the unnecessary permission changes, either untick the each checkbox, located before the path, for which permission changes were detected, or to skip all permissions select

the Do not apply from the Apply to MSI field, located in the bottom of the window.



- In order to review and exclude the unnecessary MSI shortcuts, go to the **Shortcuts\Apps** -> **MSI** tab, and untick the checkbox, located before the shortcut name in the list, for those shortcuts, which you want to exclude.



- For managing **MSI Settings** such as application details, compression type, use of advertised tables, adding, active setup and the like, see section 3.8.6

- Once the package is built, click **Go to...**, located next to the MSI file name field, to open the package containing folder in Windows Explorer.

Edit package - PKG-190206-170002.mgp

MENU

Package

Files

Registry

System resources

Permissions

Shortcuts/Apps

Properties

MSI

MST

UWP

APPV

THINAPP

Application Details

Application name

Firefox

Publisher

Mozilla

Version

63.0.3

Product language

1033

Product code

3A38FA11-81A1-4794-8857-AAC031359ABD

New GUID...

Upgrade code

AA66FB77-4086-4986-B795-7D7C9386A0ED

New GUID...

☒ Generate new codes when build MSI

Summary Information

Title

Installation Database

Subject

Author

Keywords

Install.MSI

Comments

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

Platform

Autodetect

Languages

0

MSI Package Options

MSI settings profile

default

Edit

MSI file name

C:\Users\pace\Documents\MSI Generator\Packages\PKG-1

Browse...

Go to...

MSI CodePage

0 Neutral

INSTALLDIR

C:\Program Files (x86)\Mozilla Firefox

BUILD LOG

Detected MSI installations

Open log

Type	Elapsed	Step
	00:00:51	Operation was completed successfully
	00:00:51	Writing data to the _Validation table
	00:00:51	Writing data to the CreateFolder table
	00:00:51	Writing data to the AdvtExecuteSequence table
	00:00:51	Writing data to the InstallExecuteSequence table
	00:00:51	Writing data to the CustomAction table
	00:00:51	Writing data to the MsiAssemblyName table
	00:00:51	Writing data to the MsiAssembly table
	00:00:49	Importing cabinet (CAB) file into the MSI - "PKG191_1.cab"
	00:00:49	Writing data to the Media table
	00:00:48	Writing data to the Verb table
	00:00:48	Writing data to the MIME table

Elapsed time

00:00:52

Open MSI

Build MSI

3.2 Create MST

Choose a scenario that better suits your needs:

- **Create Blank MST**, described in section 3.2.1
Create a blank transform file (MST) for your MSI package in MSI Editor. All changes, made to the opened MSI database, will be saved to the MST.
- **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 system changes, which were made to the file system and registry, by script, by application or manually and save them into MST file, generated against the selected MSI package using MSI Generator. Along with files and registry, services and environment variables, you can capture the modified permissions to the file system and registry.

3.2.1 Create Blank MST

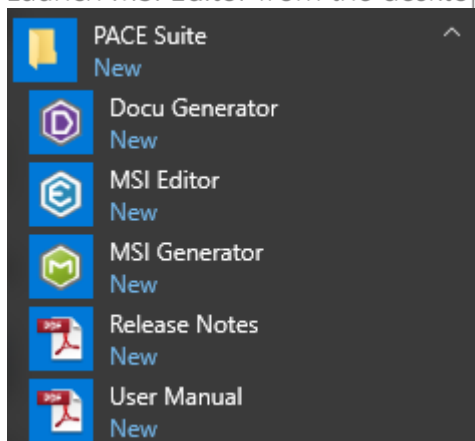
Create a blank transform file (MST) for your MSI package in MSI Editor. All changes, made to the opened MSI database, will be saved to the MST.

NOTE PACE Suite supports two scenarios of saving changes to MST:

1. Open MSI -> **create and apply MST** -> modify the package -> save changes
2. Open MSI -> modify the package -> **save changes as MST**

The following describes the 1st scenario "Open MSI -> **create and apply MST** -> modify the package -> save changes".

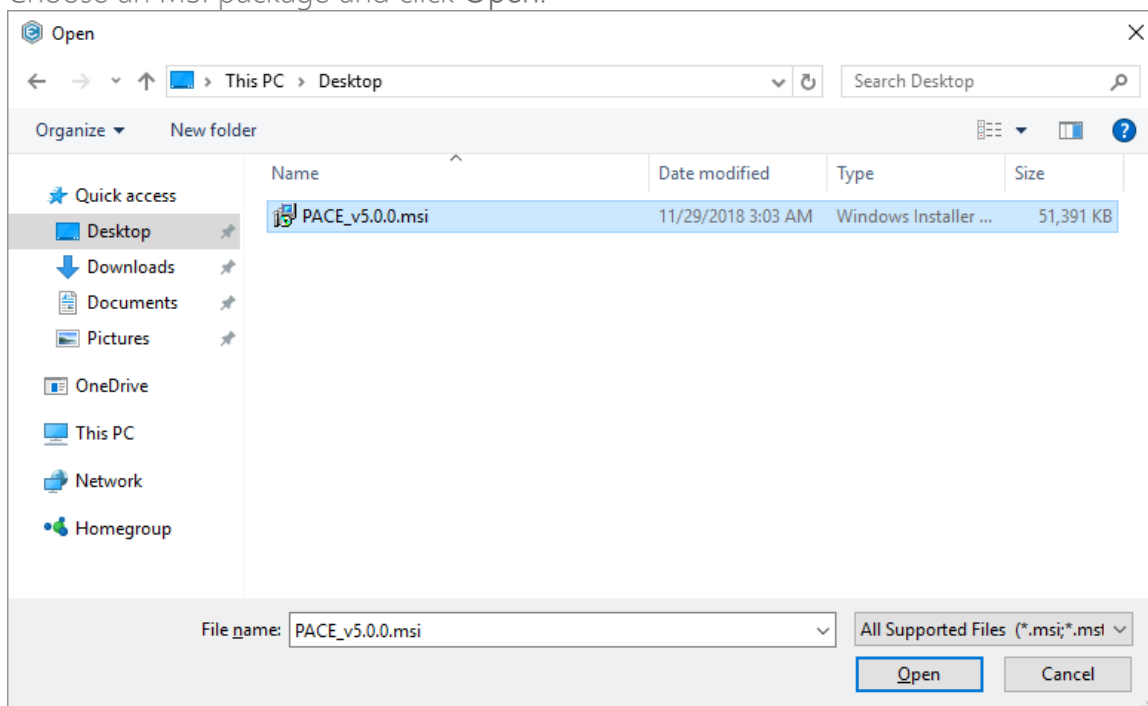
- Launch MSI Editor from the desktop or the start menu shortcut.



- Select **Open...** from the **MENU** to open the MSI package, which you want to modify via MST.



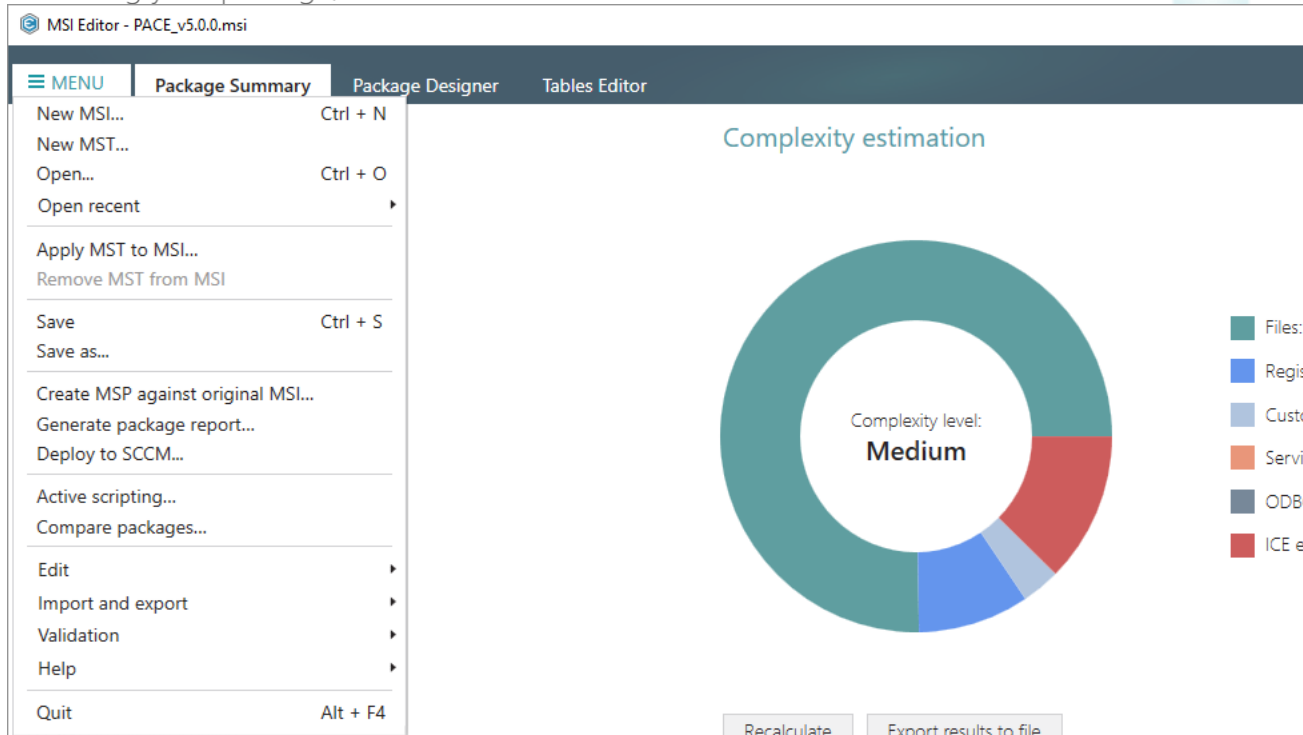
- Choose an MSI package and click **Open**.



- For managing package resources and settings, refer to the respective section of this document:
 - For managing Application Details see section 3.7.2
Manage product name, version, language and manufacturer of the application.
 - For managing Package IDs see section 3.7.3
Manage product, upgrade and package codes.

- For managing **Files and Folders** see section 3.7.4
Review package files and folders, add new folders, import files, set permissions, register COM objects and .NET assemblies, set the INSTALLDIR folder and the like.
- For managing **Shortcuts** see section 3.7.5
Review package shortcuts, add new or import existing shortcuts, manage their properties.
- For managing **Registry** see section 3.7.6
Review package registry, add new or import from REG file registry keys and values, integrate ActiveSetup, set permissions and the like.
- For managing **Custom Actions** see section 3.7.7
Manage custom and standard actions of the package, add new one to run scripts, EXE, etc.
- For managing **Drivers** see section 3.7.8
Review the package device drivers, modify and add new ones.
- For managing **Features and Components** see section 3.7.9
Review the feature-component structure and resources, linked with components. Add new features, components and manage their properties.
- For managing **ARP Appearance** see section 3.7.10
Control how the package will be displayed in the App list (Add & Remove Programs).
- For managing **Upgrades** see section 3.7.11
Manage the package upgrade settings to automatically upgrade previous MSI packages.
- For managing **MSI Properties** see section 3.7.12
Manage package properties, defined in the Property table and those, which will be updated by the CustomAction, AppSearch, Control, ComboBox, CheckBox, RadioButton tables.
- For managing **Summary Information** see section 3.7.13
Manage Summary Information of the opened MSI/MST.
- For managing **MSI Tables** see section 3.7.14
Add, import, drop MSI tables.
- For managing **Merge Modules**, described in section 3.7.15
Create new MSM or importing existing MSM to the package.

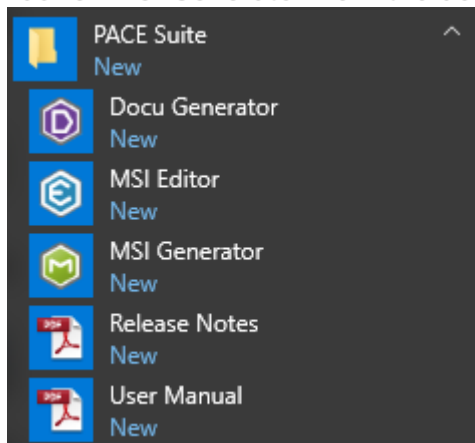
- For saving your package, select Save from the MENU.



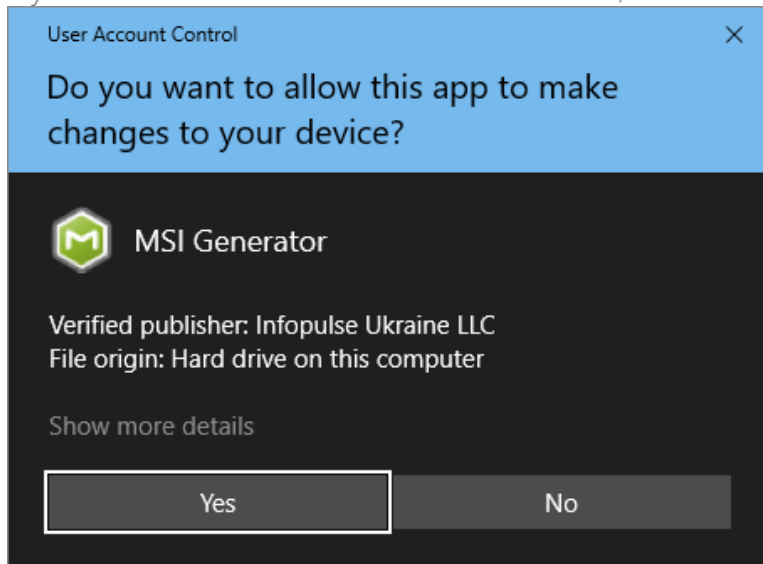
3.2.2 Create Response MST

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.

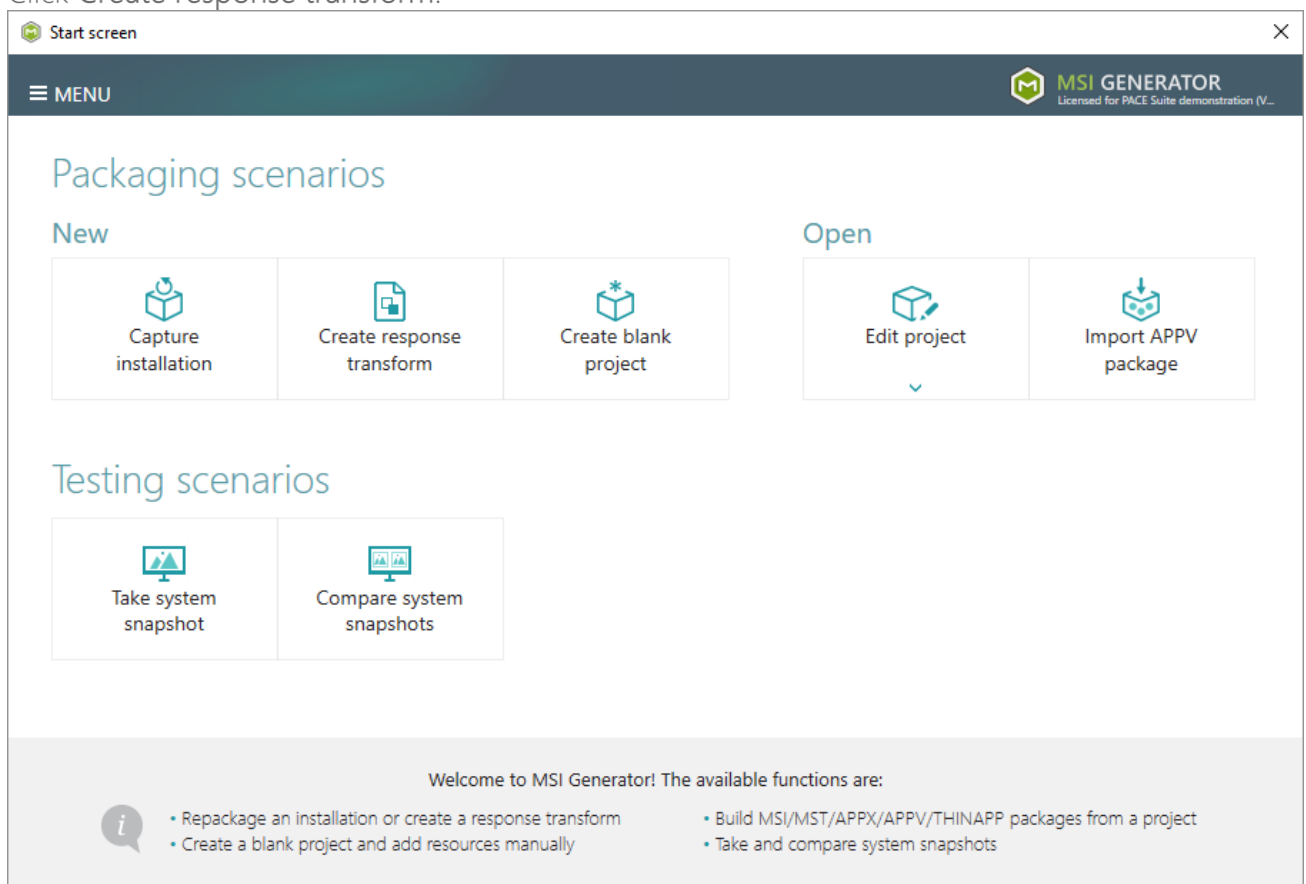
- Launch MSI Generator from the desktop of the start menu shortcut.



- If you have the User Account Control enabled, click Yes to launch the application.



- Click Create response transform.



- Click **Browse...**, located next to the MSI package for tailoring field, to select an MSI package for tailoring. Note that the MSI installation will be simulated and will not affect your real system.

Create a response transform

MSI for tailoring Installation simulation Captured changes Completion

Select an MSI for Tailoring

MSI package for tailoring **Browse...**

Apply transform (optional) **Browse...**

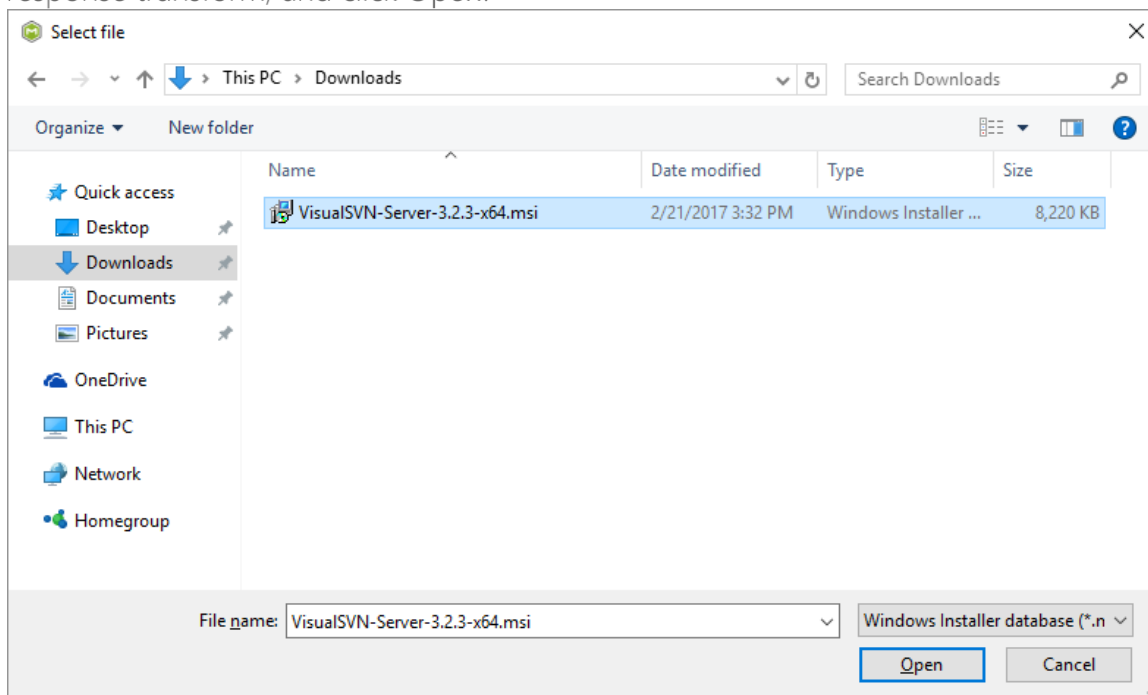
Command-Line options (MSI properties only)

☐ Ignore MSI launch condition

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

< Back Next > Cancel

- 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**.



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

LaunchCondition MSI table.

Create a response transform

MSI for tailoring Installation simulation Captured changes Completion

Select an MSI for Tailoring

MSI package for tailoring

Apply transform (optional)

Command-Line options (MSI properties only)

☐ Ignore MSI launch condition

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

- Click Next to start the MSI installation simulation.

Create a response transform

MSI for tailoring Installation simulation Captured changes Completion

Select an MSI for Tailoring

MSI package for tailoring

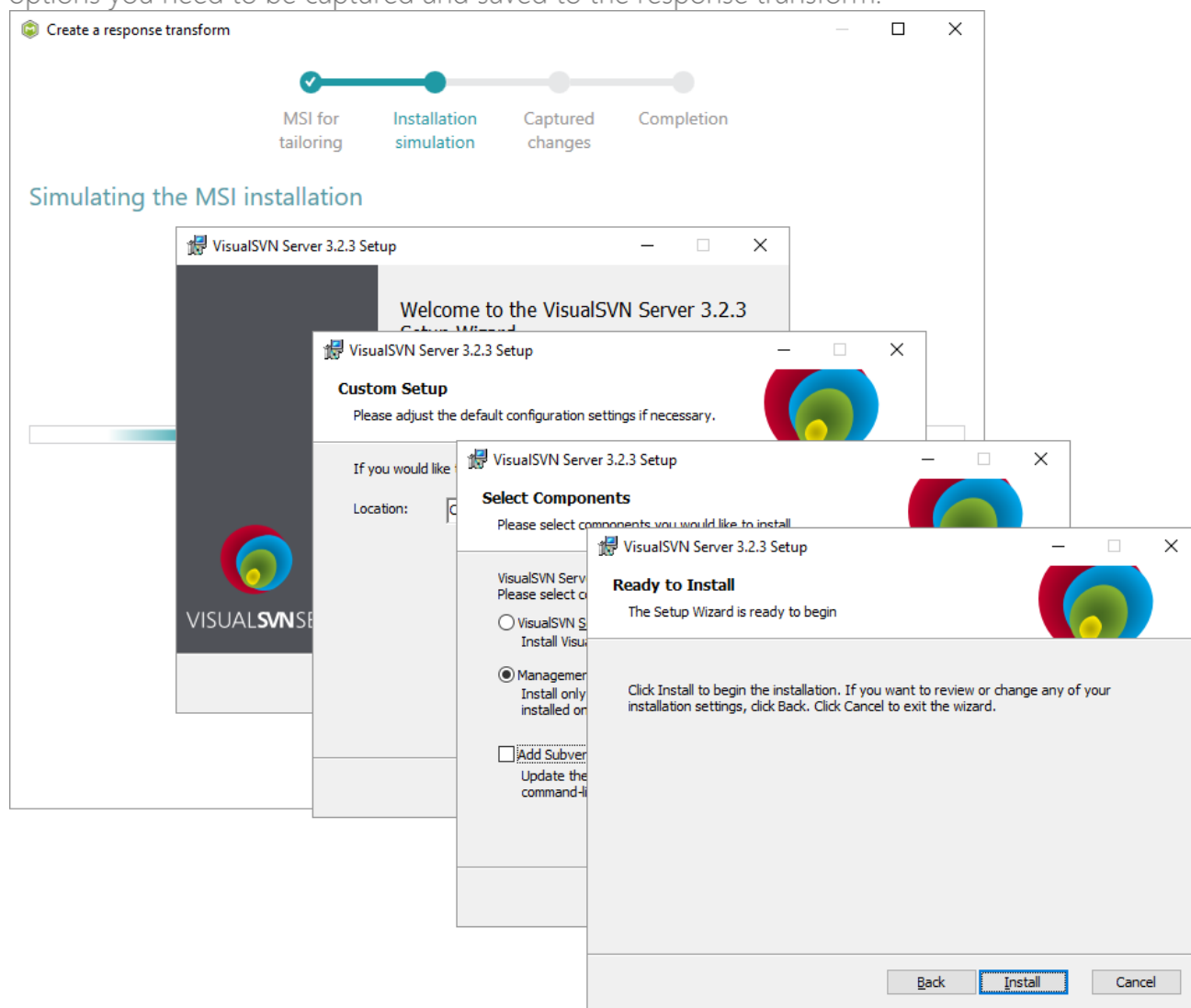
Apply transform (optional)

Command-Line options (MSI properties only)

☐ Ignore MSI launch condition

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

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



- Review captured information, which will be saved to the response transform (MST) file, by opening the Properties, Features and Directories tabs. Click Add to create new or click

Remove to remove the selected item in the opened tab.

Create a response transform

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

Captured changes

Properties Features Directories

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

Add Remove Total rows: 8

< Back Next > Cancel

- Click Next to choose the saving options.

Create a response transform

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

Captured changes

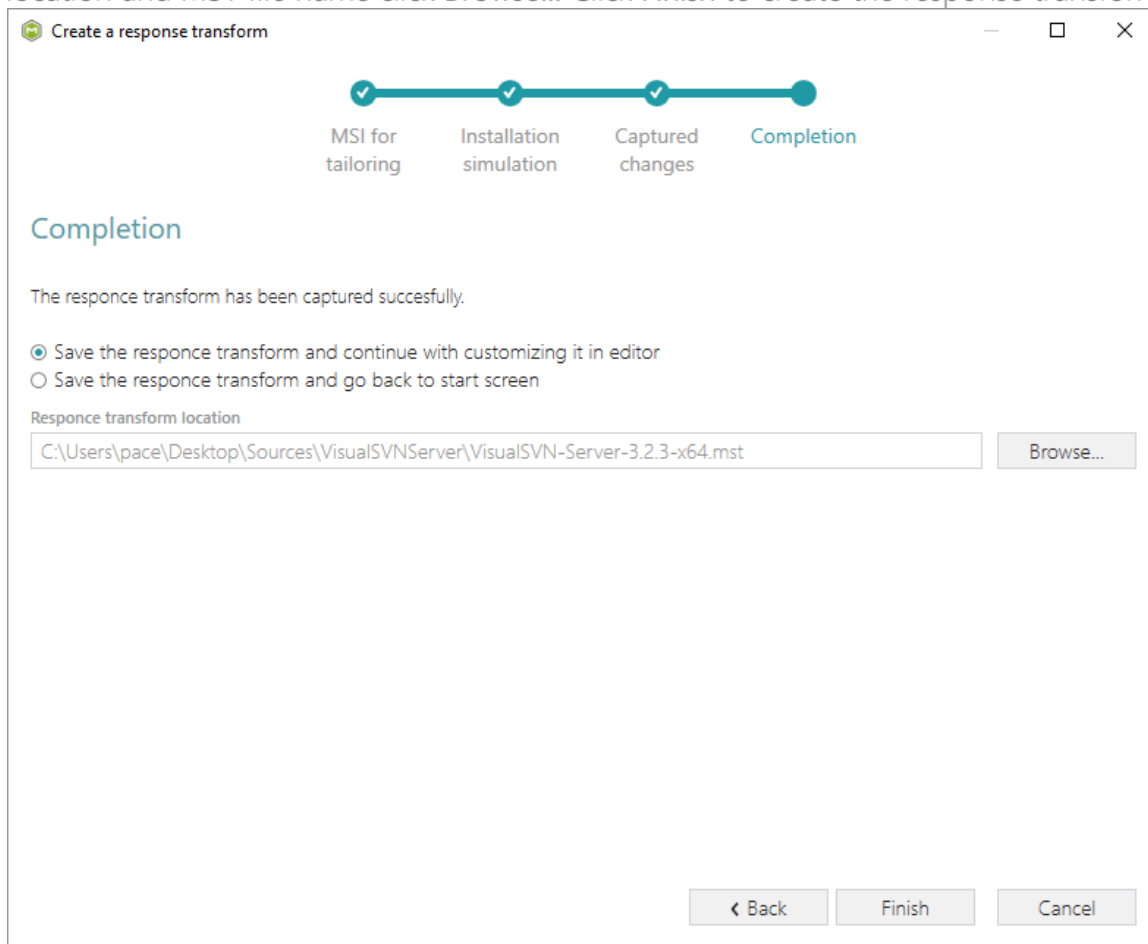
Properties Features Directories

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

Add Remove Total rows: 8

< Back Next > Cancel

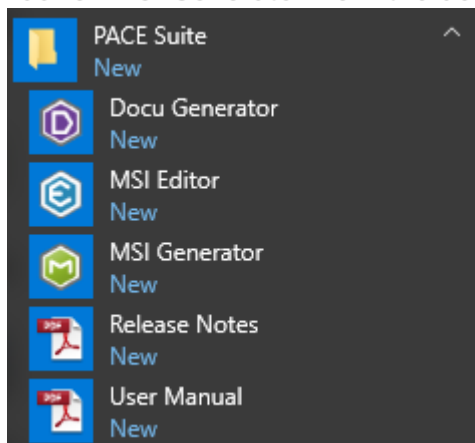
- We recommend to leave the **Save the response transform and continue with customizing it in editor** option selected to open the generated MST in MSI Editor. For changing the destination location and MST file name click **Browse...** Click **Finish** to create the response transform.



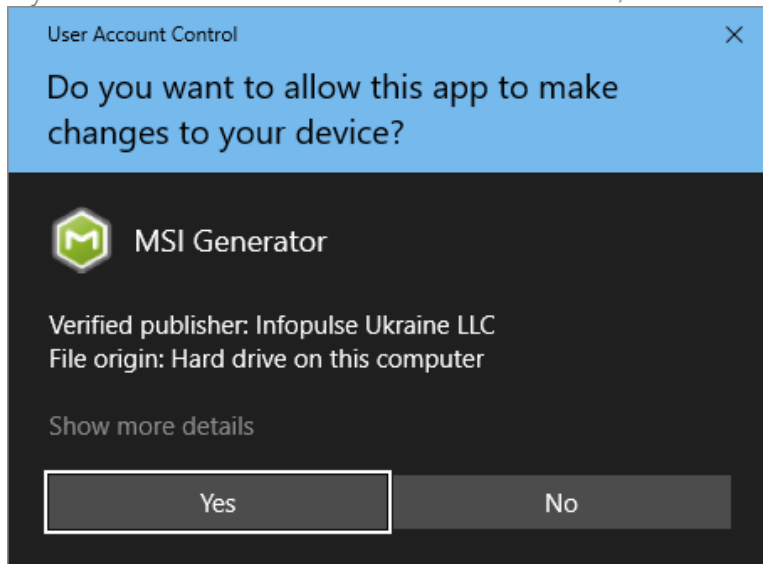
3.2.3 Capture System Changes to MST

Capture system changes, which were made to the file system and registry, by script, by application or manually and save them into MST file, generated against the selected MSI package using MSI Generator. Along with files and registry, services and environment variables, you can capture the modified permissions to the file system and registry.

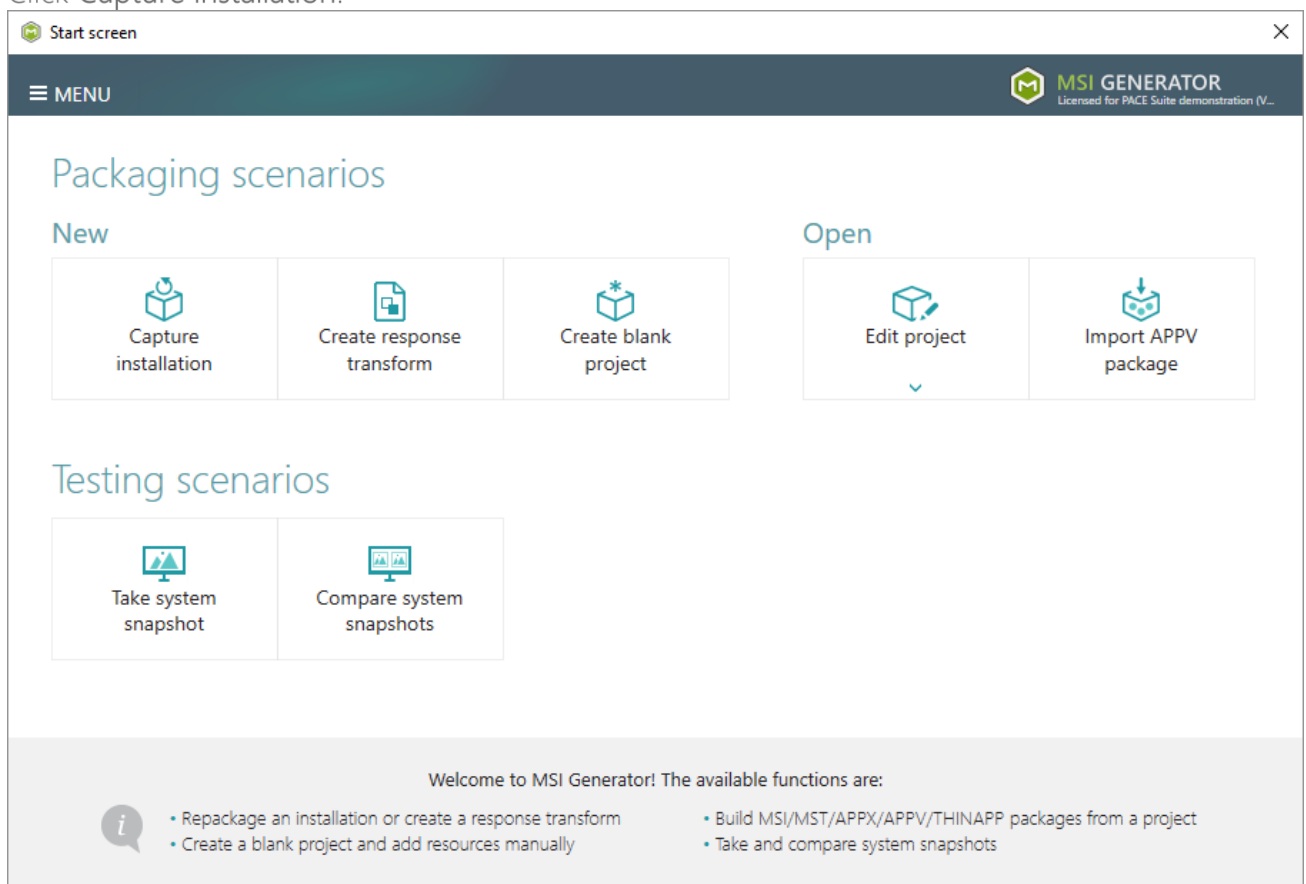
- Launch MSI Generator from the desktop of the start menu shortcut.



- If you have the User Account Control enabled, click Yes to launch the application.



- Click Capture installation.



- Review the issues, which were detected on your system, and try to resolve them by closing the non-essential applications and stopping services. Thereafter, click **Next >**.

Capture installation

Prepare computer

Capturing method

Settings

Installation

Completion

Prepare the computer for capturing

It is strongly recommended to perform capturing on a clean virtual machine with all non-essential processes stopped in order to avoid capturing data, which is not related to your source installation. Also, in case of any failure, you will be able to restore the virtual machine to the previous state.

The following issues were detected on your system:

Description	Resolution
Diagnostic Policy Service is active.	Stop this service before capturing.
Windows Defender Antivirus Service is active.	Stop this service before capturing.
Security Center is active.	Stop this service before capturing.
Windows Search is active.	Stop this service before capturing.
Windows Defender is running.	Close your antivirus software before capturing.

Refresh

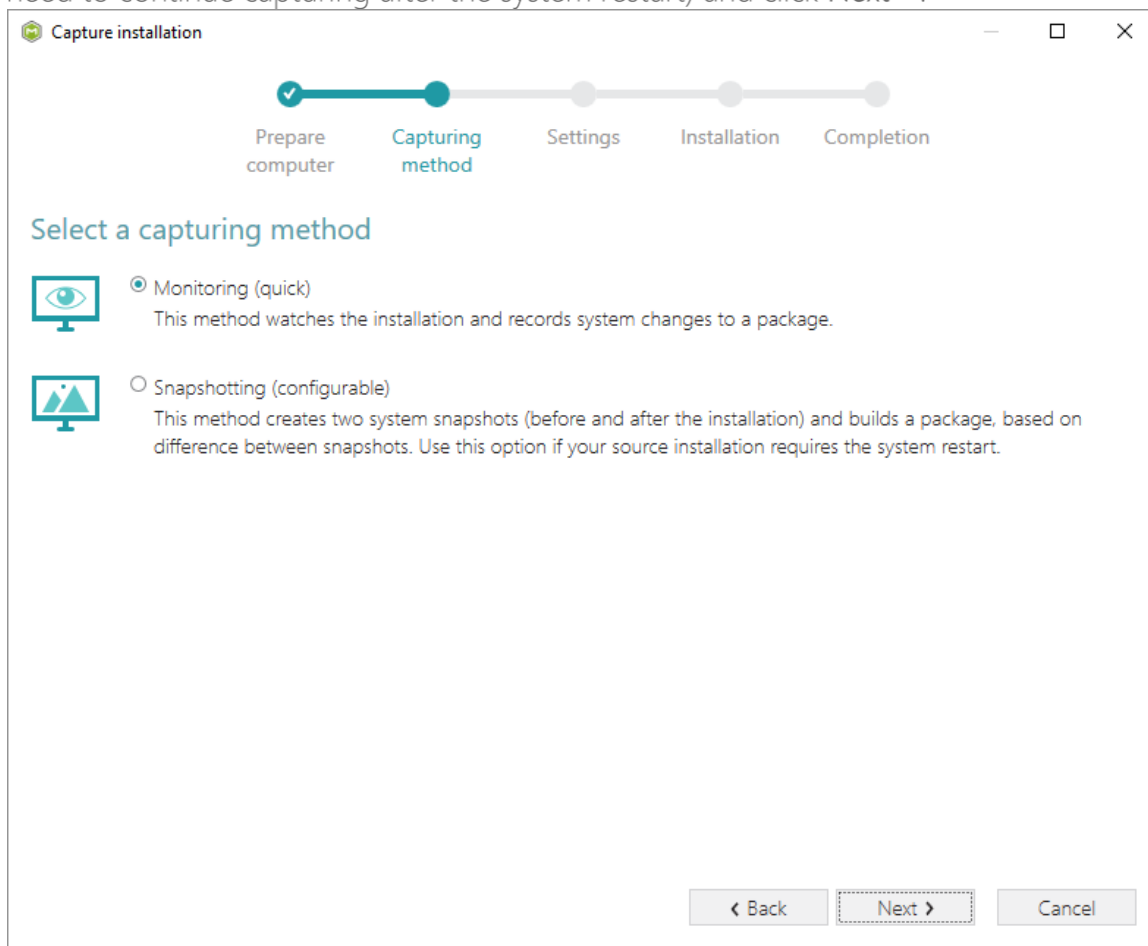
[Review the capturing recommendations...](#)

< Back

Next >

Cancel

- Select the **Monitoring** method for the quicker capturing (or use the **Snapshotting** one if you need to continue capturing after the system restart) and click **Next >**.



- Review and update package name. If needed, disable unnecessary exclusion filters and scanning areas. Click **Next >** to start the capturing.

Capture installation

Prepare computer Capturing method **Settings** Installation Completion

Settings

Package name
PKG-170912-154800

Exclusion filters

Apply the following filters to the captured resources:

- ☒ AllWindowsOS
- ☒ Win7
- ☒ Win8-10

Scanning areas

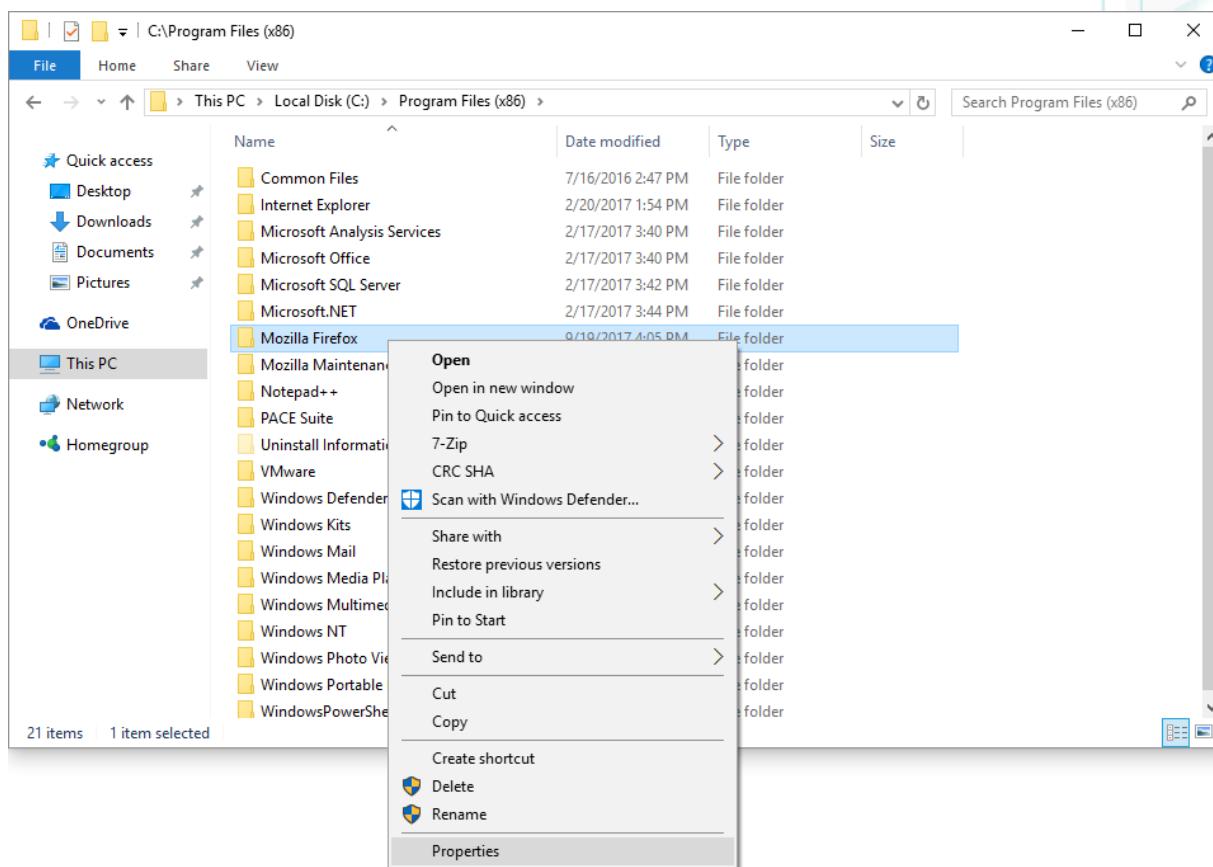
Application objects:

- ☒ Permissions
- ☒ Services
- ☒ Printers

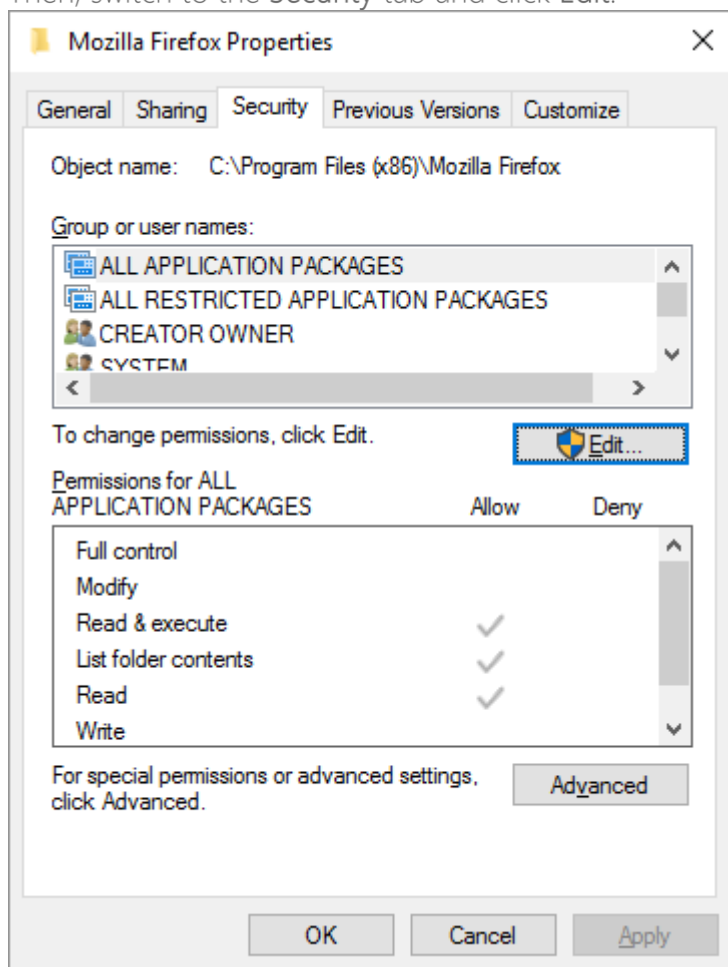
< Back **Next >** Cancel

- Now you can make any changes to the file system and registry, which you want to capture and include to the package. For instance, you can copy files, import REG file to the system registry, change file, folder permissions, or launch the installed application in order to capture the necessary application configurations, like disabling updates and so on.

In case of necessity, to change the default permission settings for a folder or a file, select **Properties** from the Windows Explorer context menu of a folder, for which you want to set new permissions.

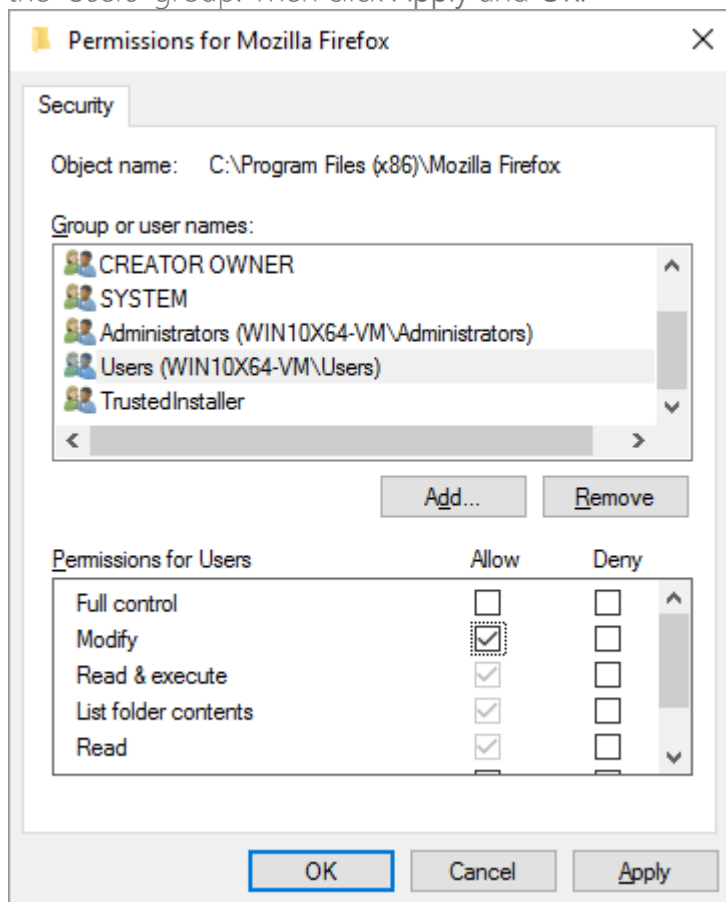


Then, switch to the Security tab and click Edit.

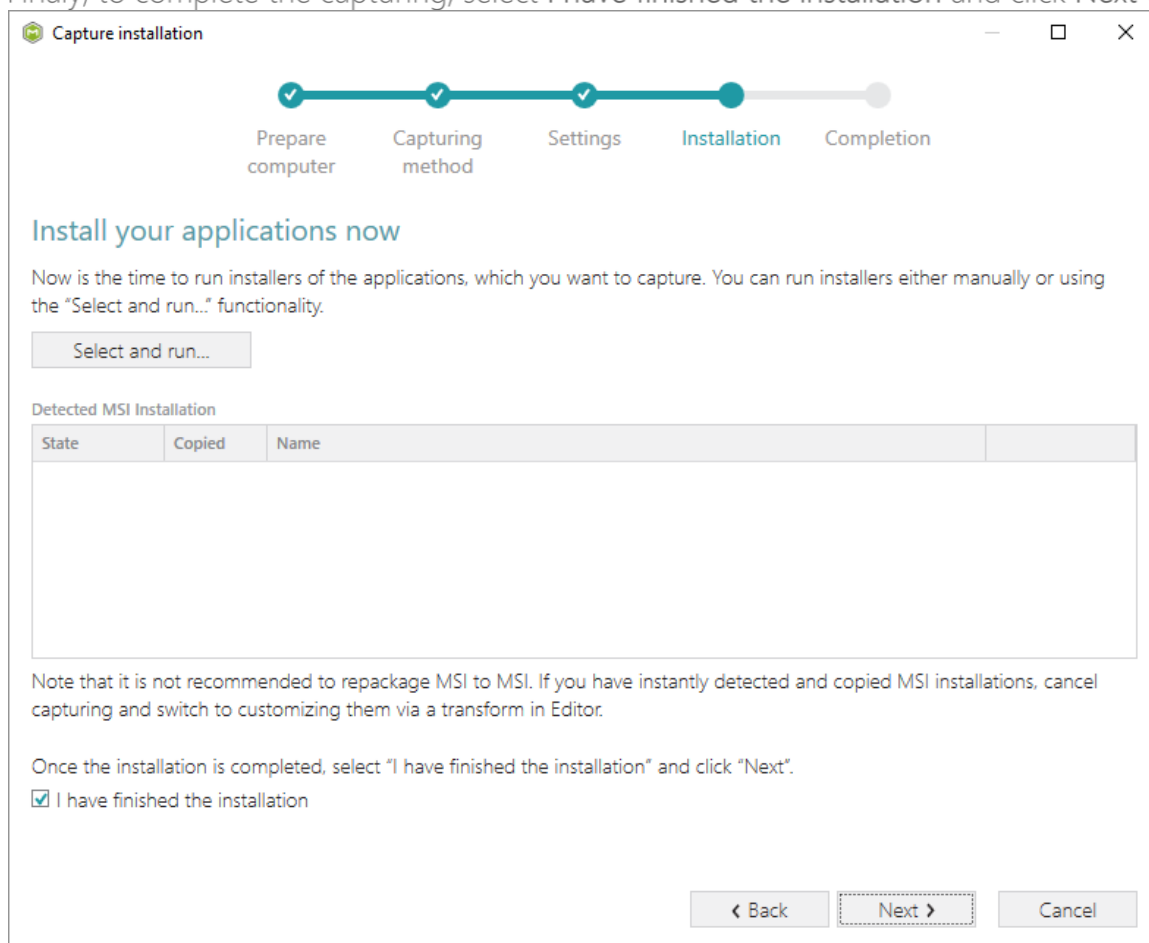


And select a group or a user, for which you want to change the permissions and then select the necessary access rights. For example, let's set the 'Write' and the 'Modify' access rights for

the 'Users' group. Then click Apply and OK.



- Finally, to complete the capturing, select I have finished the installation and click Next >.



- Wait a little, while the capturing process is finishing, filtering captured data and creating the project.

Capture installation

✓

✓

✓

●

○

Prepare computer

Capturing method

Settings

Installation

Completion

Install your applications now

Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.

Select and run...

Detected MSI Installation

State	Copied	Name

Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.

Once the installation is completed, select "I have finished the installation" and click "Next".

☒ I have finished the installation

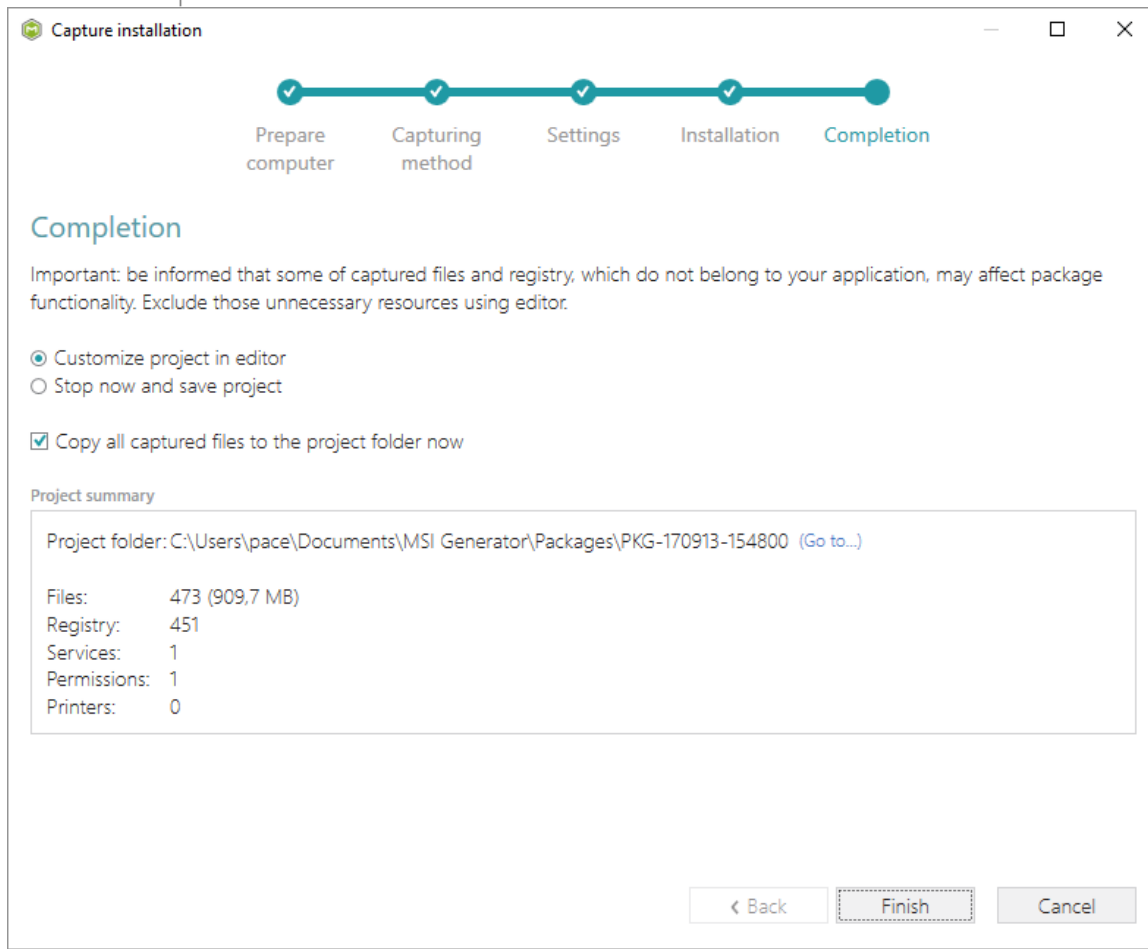
00:08 Scanning Services

< Back

Next >

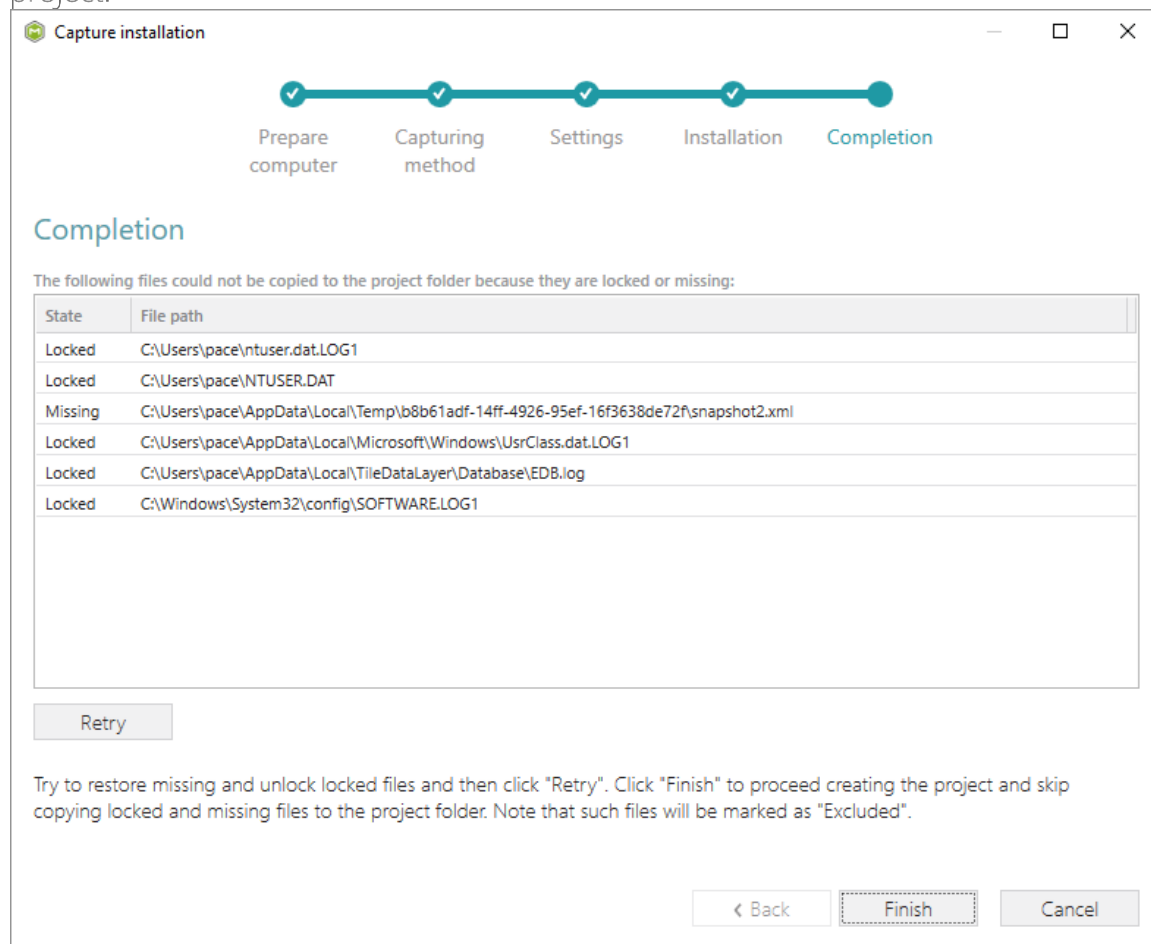
Cancel

- Leave selected both the Customize project in editor and Copy all captured files to the project folder now options and click Finish.



- If some of captured files are locked or missing and as result they could not be copied to the project folder, they will be displayed as illustrated below. Usually, the displayed files are system noise and do not refer to the captured application. Click **Finish** to continue with skipping locked and missing files. Note that such files will be automatically marked as 'Excluded' in your

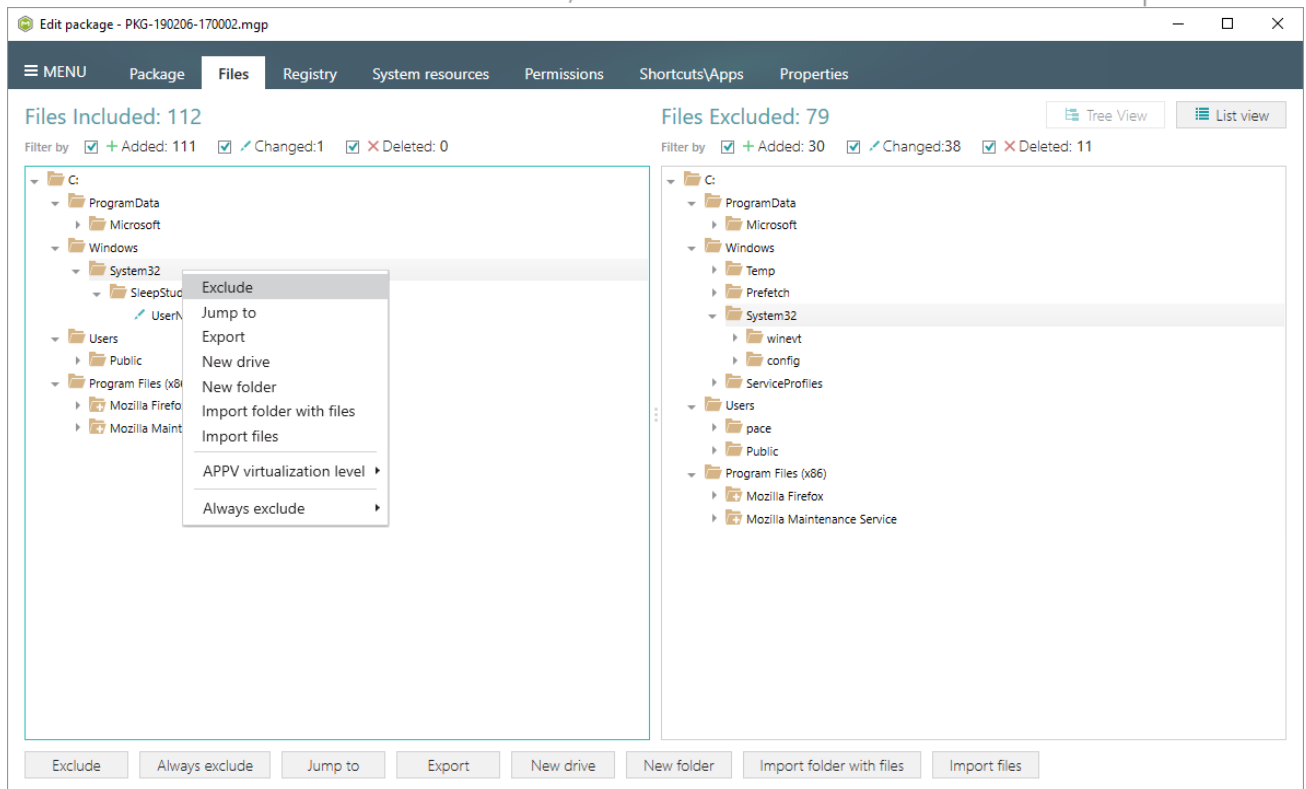
project.



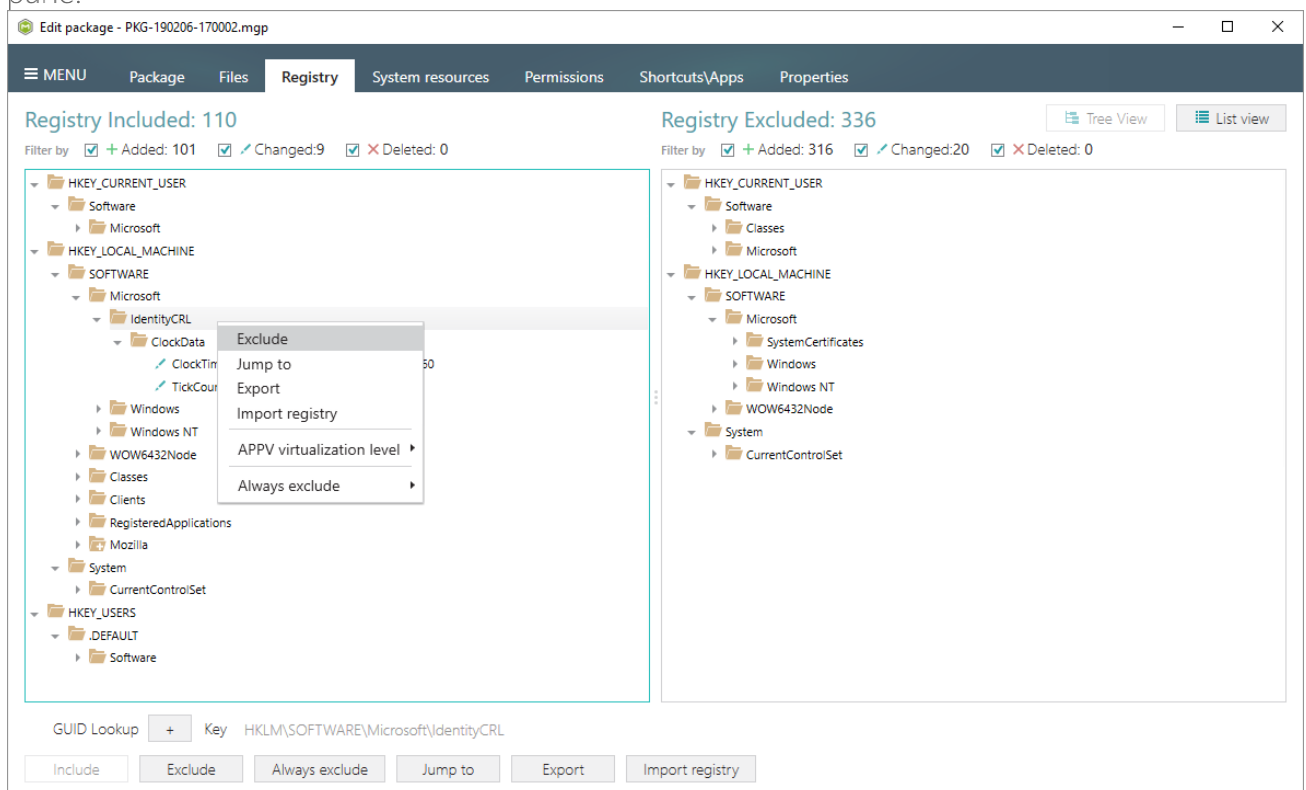
- Once the project is opened in the project editor, it is strongly recommended to review the **Files**, **Registry**, **System resources**, **Permissions**, and **Shortcuts\Apps** tabs and exclude the accidentally captured resources, which do not belong to the application. Such accidentally captured resources are also called system noise and it could be Windows Updates, Search indexing, Antivirus software and so on.

An MSI package with such resources may fail during the installation. The common reason for such fails is trying to write a registry value to the system-protected location, strongly prohibited from writing by third-party installations.

- In order to review and exclude unnecessary files or folders, go to the Files tab, and select Exclude from the context menu of an item, which is located in the left 'Files Included' pane.

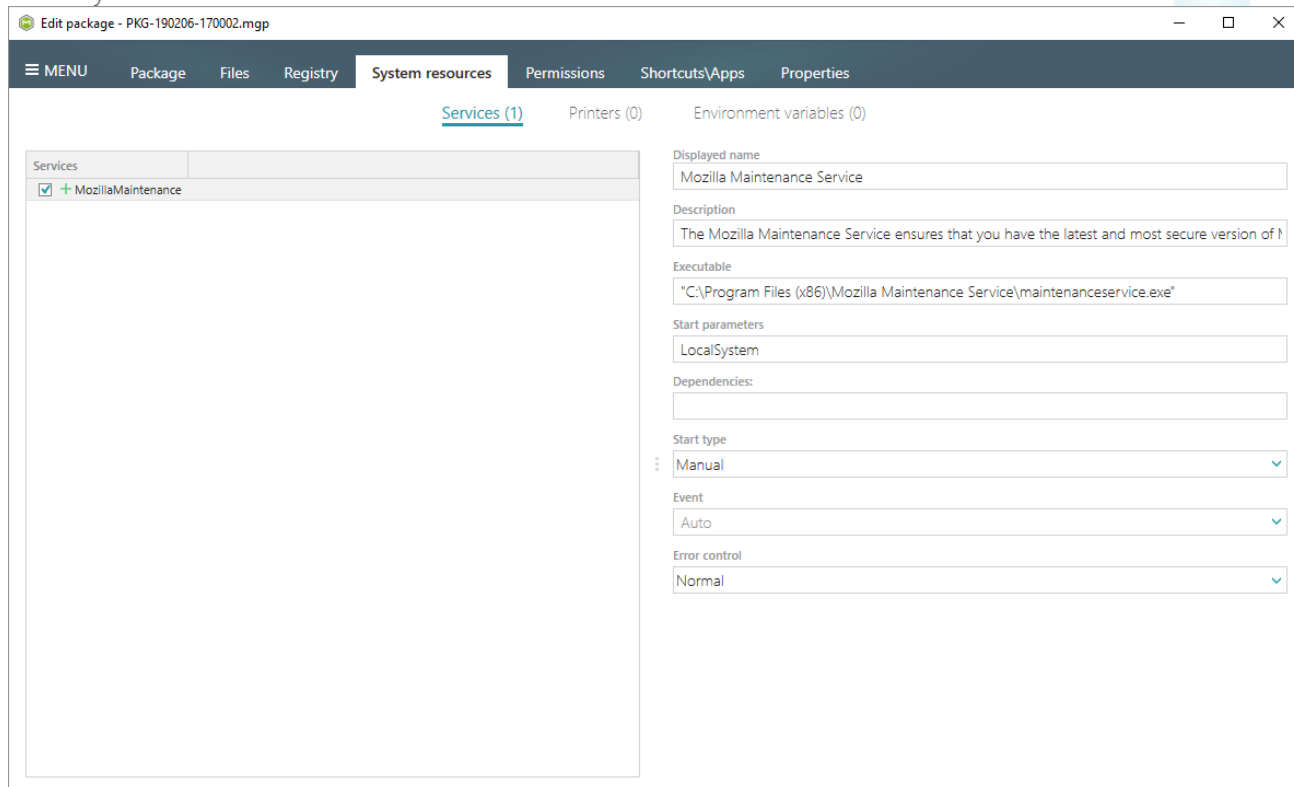


- In order to review and exclude unnecessary registry keys or values, go to the Registry tab, and select Exclude from the context menu of an item, which is located in the left 'Registry Included' pane.

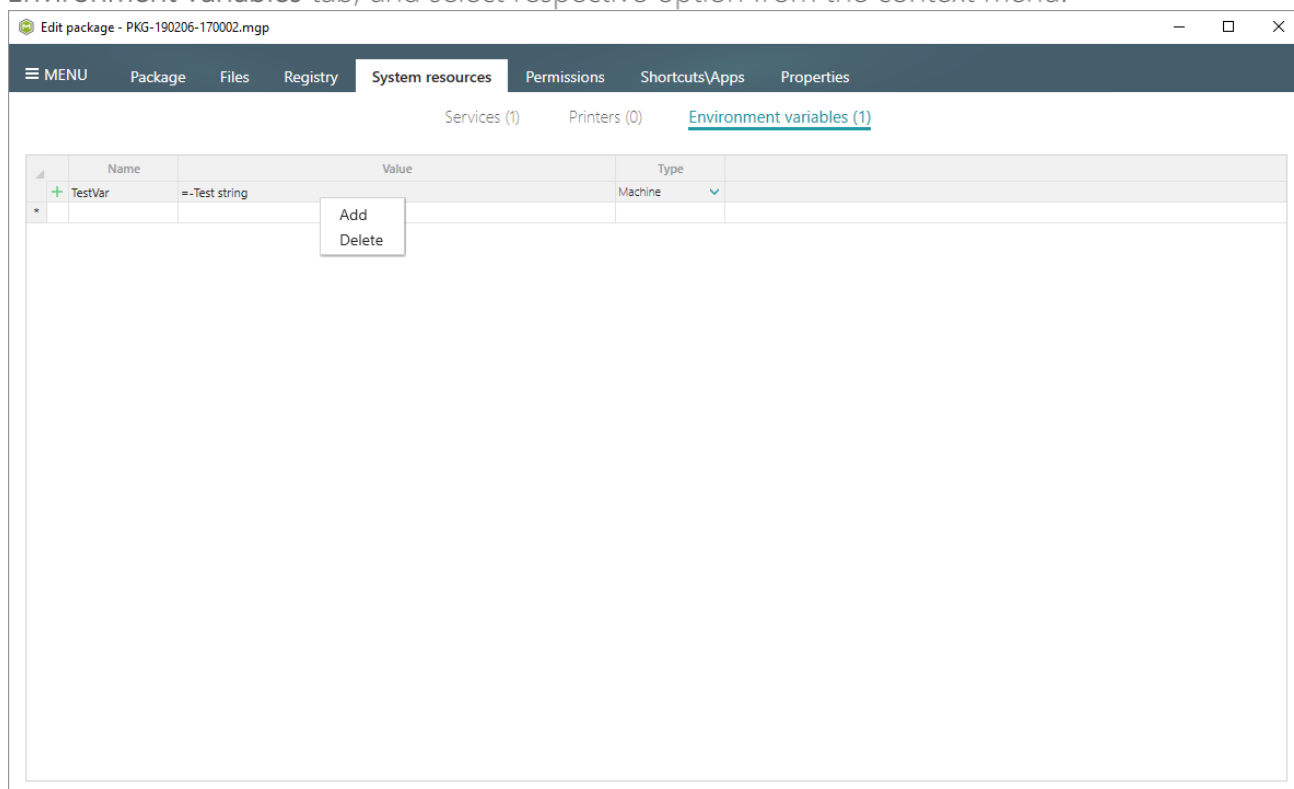


- In order to review and exclude unnecessary services, go to the System resources -> Services tab, and uncheck the checkbox, located before the service name in the list, for those services,

which you want to exclude.

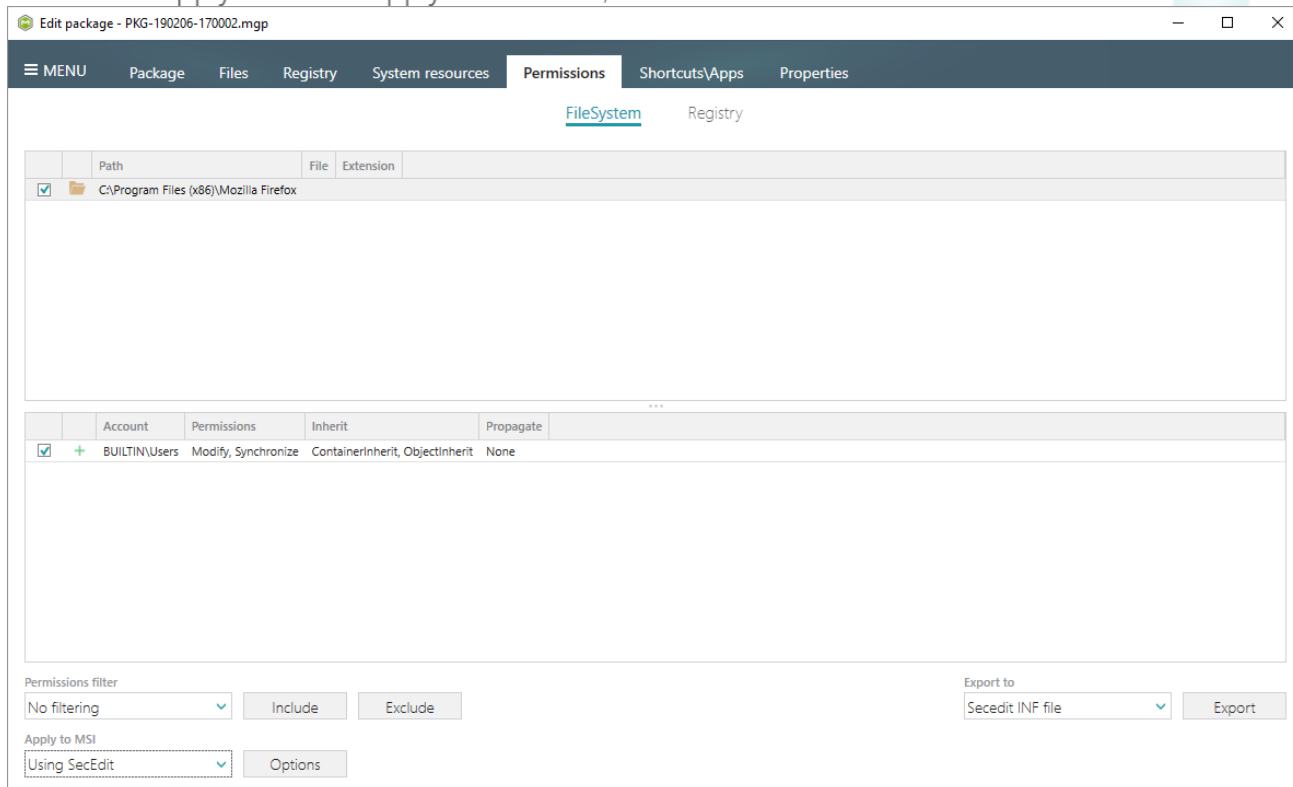


- In order to add and remove Environment variables, go to the System resources -> Environment variables tab, and select respective option from the context menu.

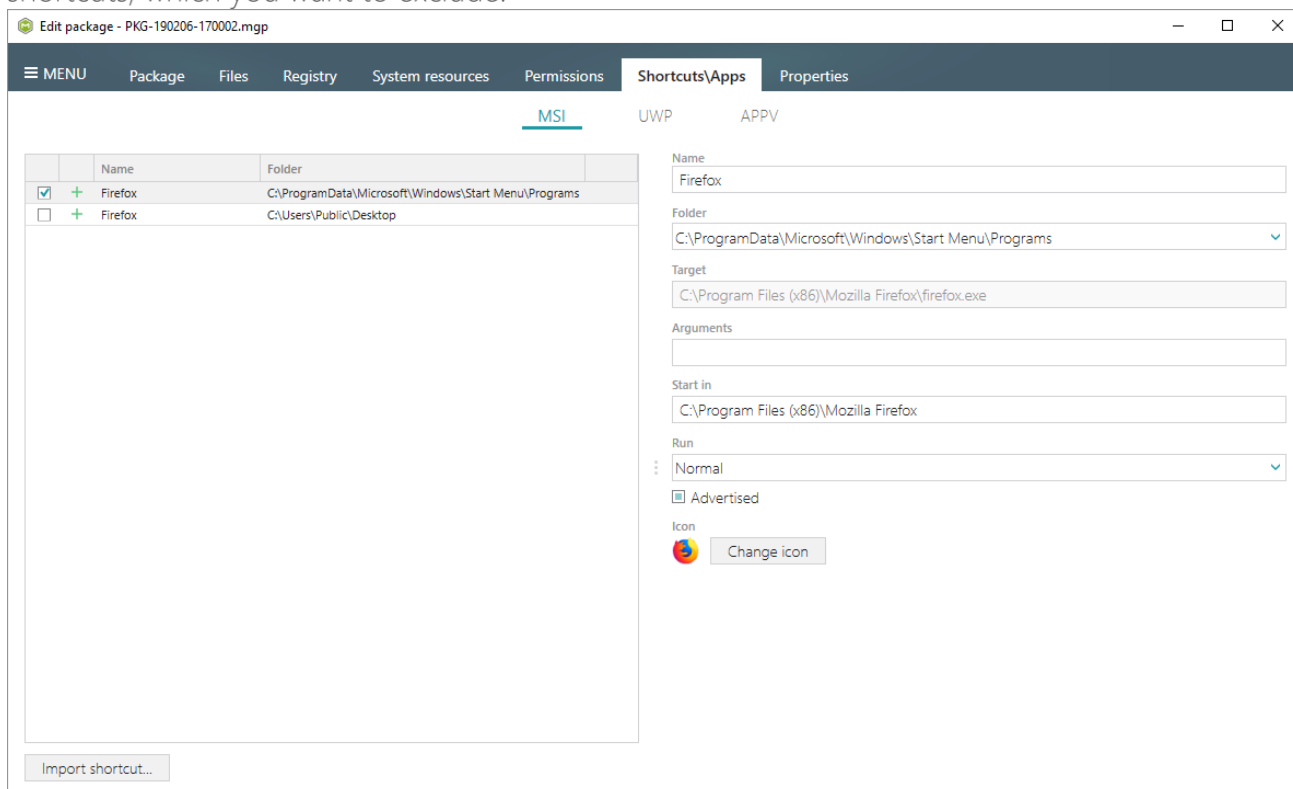


- On the Permissions tab you will find the captured permissions for the file system and registry. For excluding the unnecessary permission changes, either untick the each checkbox, located before the path, for which permission changes were detected, or to skip all permissions select

the Do not apply from the Apply to MSI field, located in the bottom of the window.

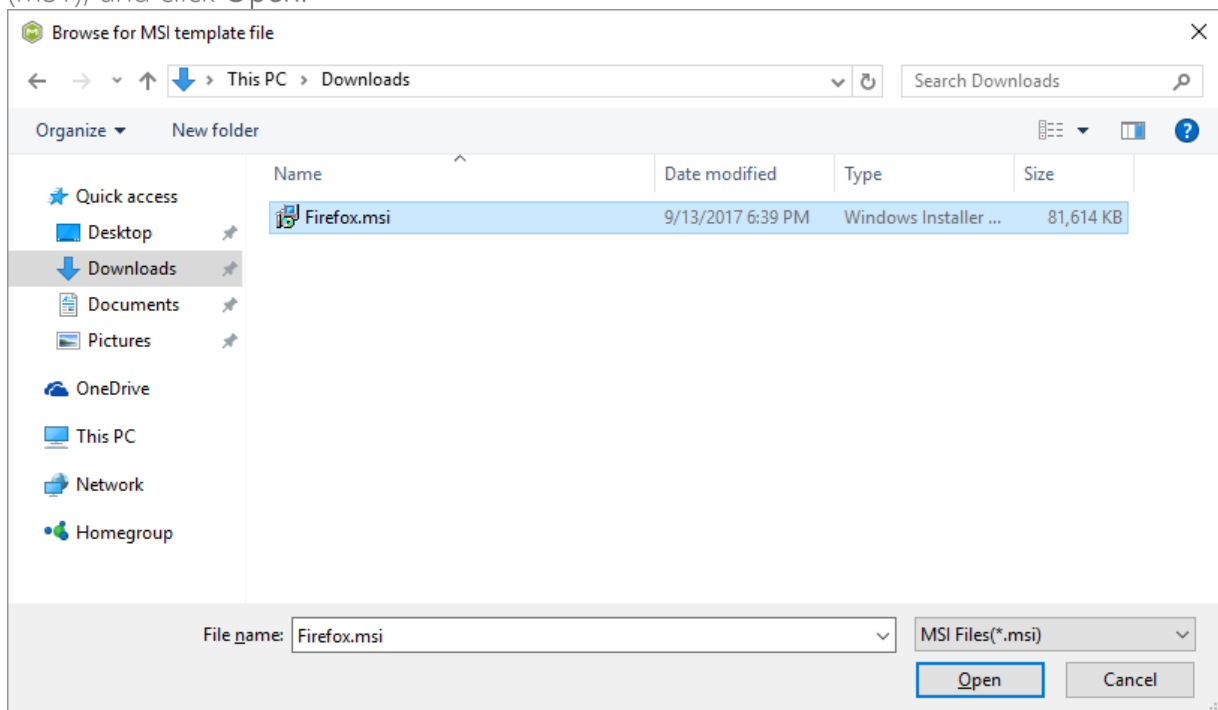


- In order to review and exclude the unnecessary MSI shortcuts, go to the **Shortcuts\Apps** -> **MSI** tab, and untick the checkbox, located before the shortcut name in the list, for those shortcuts, which you want to exclude.



- Finally, to build an MST from the project, navigate to the Package -> MST tab, click Browse..., located next to the MSI file name field.

- Choose an MSI package (e.g. Firefox.msi), against to which you want to create a transform (MST), and click Open.



- Update the Application details such as name, publisher, version, language and click Build MST to generate a transform (MST) file. Note that the generated MST will contain only those resources that do not exist in the selected MSI package (in other words, MST will contain only

Edit package - PKG-190207-100814.mgp

Menu

Package

Files

Registry

System resources

Permissions

Shortcuts\Apps

Properties

MSI

MST

UWP

APPV

THINAPP

Application Details

Application name

Firefox

Publisher

Mozilla

Version

63.0.3

Product language

1033

Product code

New GUID...

Upgrade code

New GUID...

☐ Generate new codes when build MSI

Summary Information

Title

Installation Database

Subject

Author

Keywords

Install,MSI

Comments

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

Platform

x64

Languages

0

Transform Options

MSI settings profile

default

Edit

MSI file name

Firefox.mst

Browse...

Go to...

MSI file name

Firefox.msi

Browse...

Go to...

Transform

☒ Properties

☒ Update files

☒ Update registry

☒ Features

☒ Add files

☒ Add registry

BUILD LOG

Detected MSI installations

Open log

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

Elapsed time00:00

Open MST

Build MST

- Edit package - PKG-190207-100814.mgp

MENU

Package

Files

Registry

System resources

Permissions

Shortcuts\Apps

Properties

MSI

MST

UWP

APPV

THINAPP

Application Details

Application name
Firefox

Publisher
Mozilla

Version
63.0.3

Product language
1033

Product code
{6A9781BF-46CE-46EC-BE3A-4B96B76F0851} New GUID...

Upgrade code
{AD920532-ED20-4797-9A93-E8DFA1F0D0F5} New GUID...

☐ Generate new codes when build MSI

Summary Information

Title
Installation Database

Subject

Author

Keywords
Install,MSI

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

Platform
x64

Languages
0

Transform Options

MSI settings profile
default Edit

MSI file name
Firefox.mst Browse... Go to...

MSI file name
Firefox.msi Browse... Go to...

Transform
 - ☒ Properties ☒ Update files ☒ Update registry
 - ☒ Features ☒ Add files ☒ Add registry

BUILD LOG Detected MSI installations Open log

Type	Elapsed	Step
	00:00:12	Operation was completed successfully
	00:00:12	Writing data to the _Validation table
	00:00:12	Writing data to the CreateFolder table
	00:00:12	Writing data to the AdvtExecuteSequence table
	00:00:12	Writing data to the InstallExecuteSequence table
	00:00:12	Writing data to the CustomAction table
	00:00:12	Writing data to the MsiAssemblyName table
	00:00:12	Writing data to the MsiAssembly table
	00:00:11	Writing data to the Media table
	00:00:11	Writing data to the Verb table

Elapsed time
00:00:13

Open MST Build MSI

3.3 Create MSP

Choose a scenario that better suits your needs:

- **Generate MSP on Difference**, described in section 3.3.1
Create a Patch (MSP) package, based on differences between two MSI packages: recent and old ones.
- **Save Changes as MSP**, described in section 3.3.2
Save changes, made to the opened MSI database, as a Patch (MSP) package.

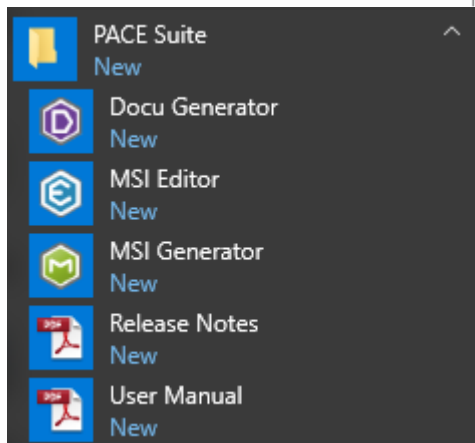
NOTE Adhere to the following restrictions during creating a Patch package:

- Do not move files from one folder to another.
- Do not move files from one CAB to another.
- Do not change the order of files in a CAB.
- Do not change the sequence number of existing files. The sequence number is the value specified in the Sequence column of the File Table.
- Any new files that are added by the patch must be placed at the end of the existing file sequence. The sequence number of any new file in the upgraded image must be greater than the largest sequence number of existing files in the target image.
- Do not change the primary keys in the File Table between the original and new .msi file versions.

3.3.1 Generate MSP on Difference

Create a Patch (MSP) package, based on differences between two MSI packages: recent and old ones.

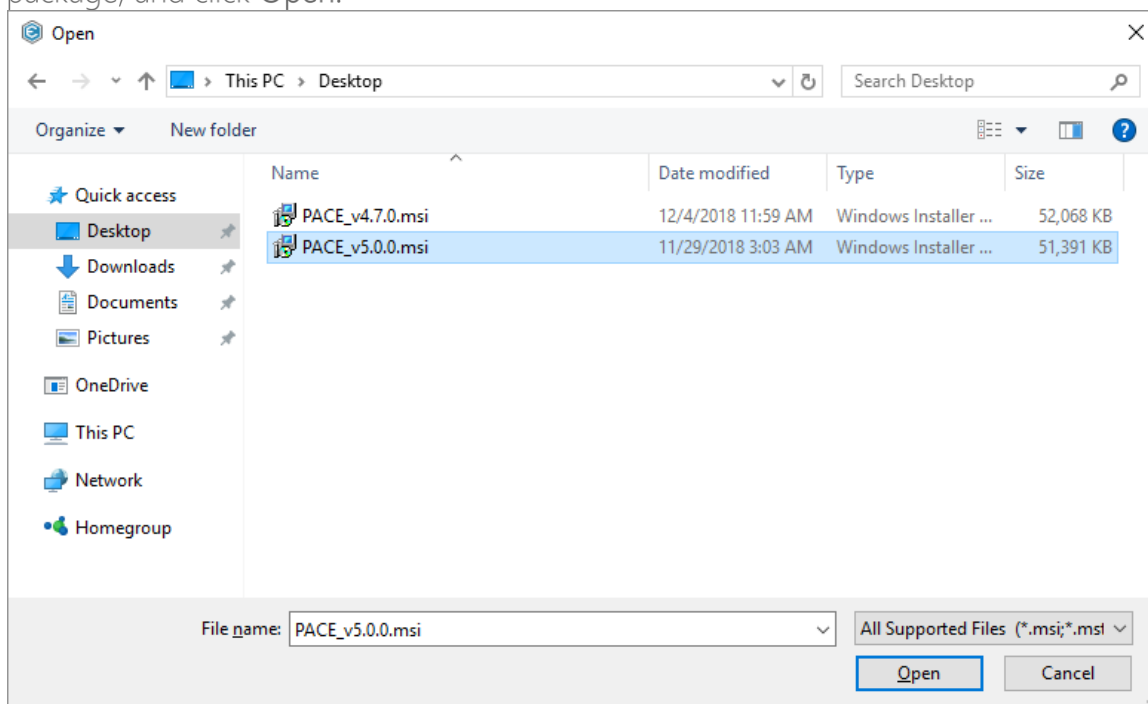
- Launch MSI Editor from the desktop or the start menu shortcut.



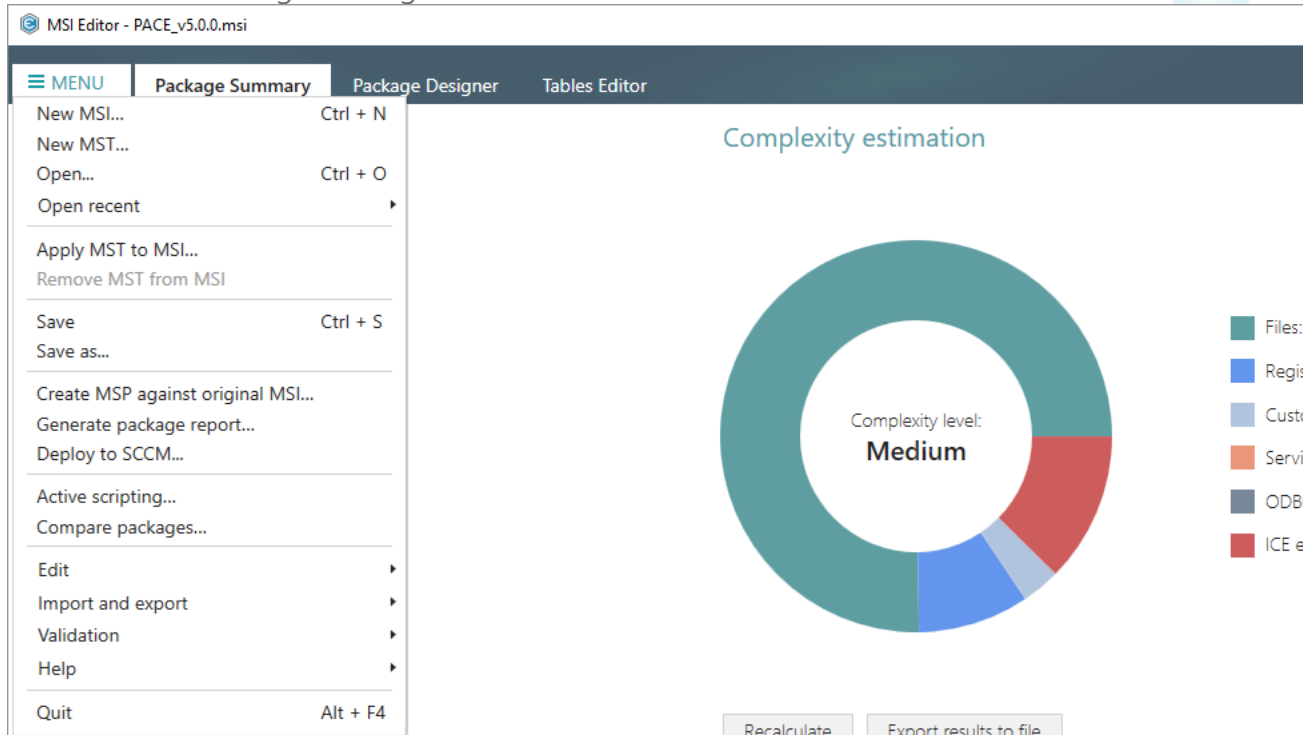
- Select Open... from MENU.



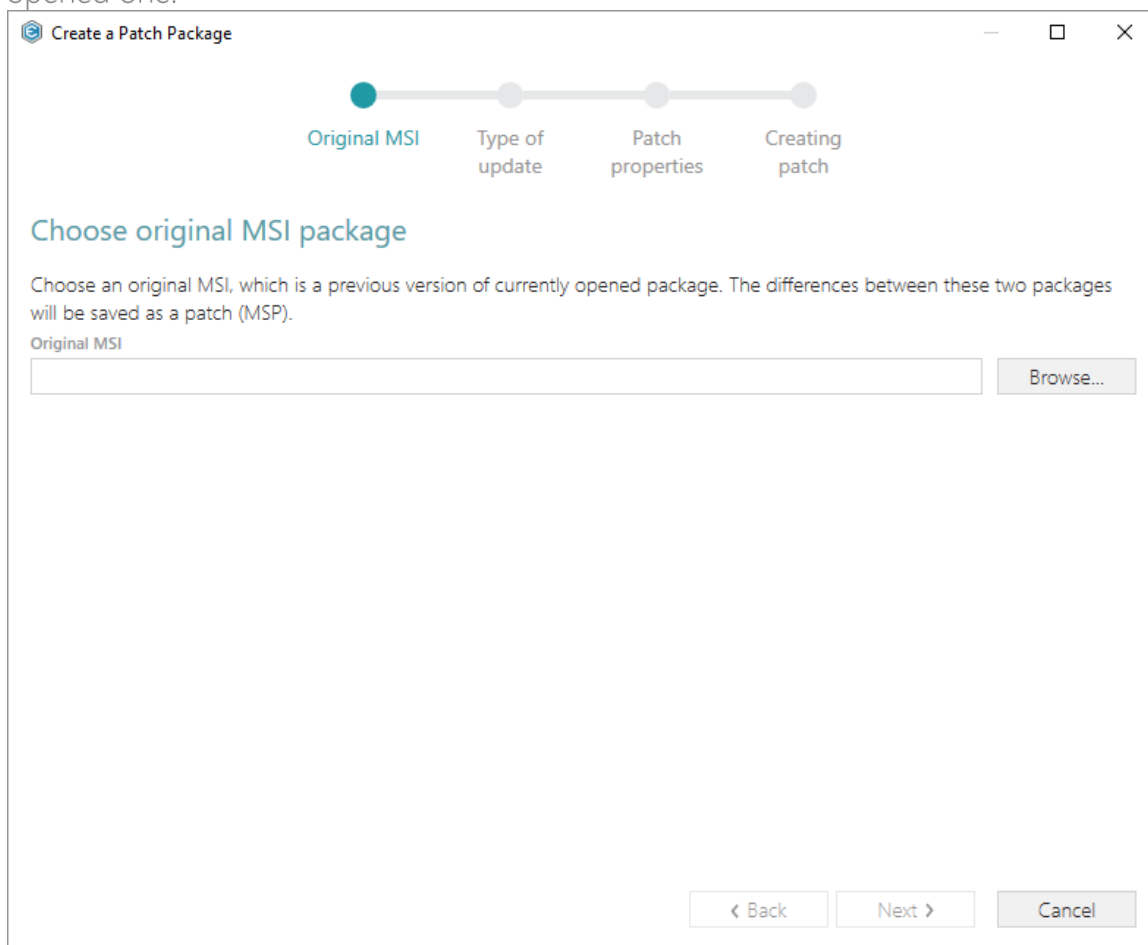
- Choose a recent MSI package, containing new resources in comparison to the previous MSI package, and click Open.



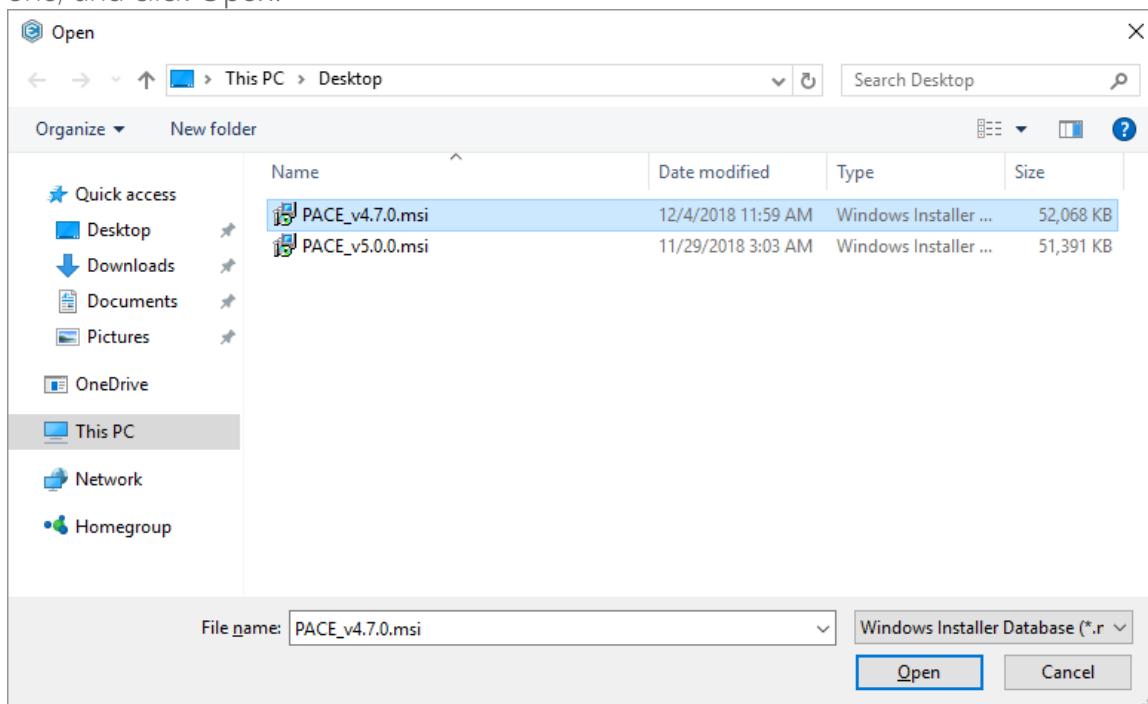
- Select Create MSP against original MSI... from MENU.



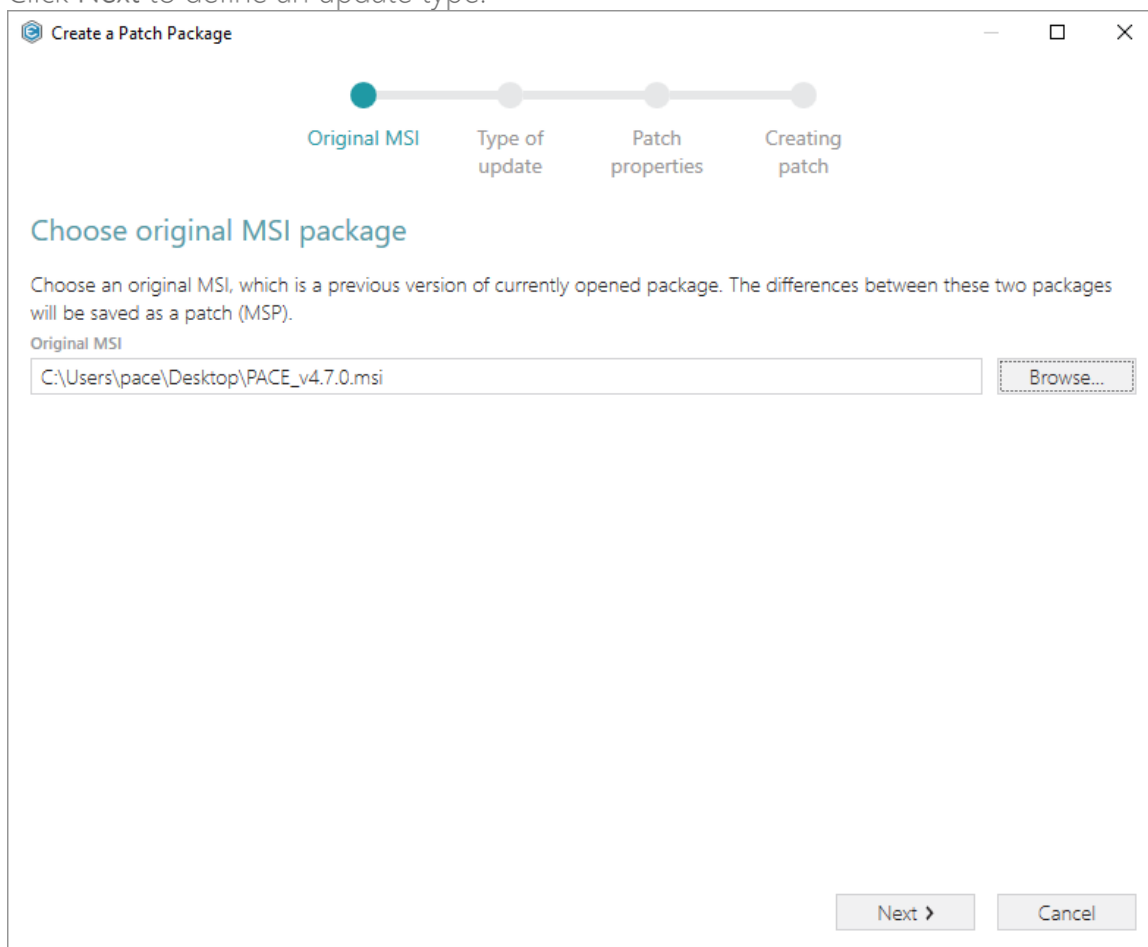
- Click Browse... to choose an original MSI package, which is a previous version of the currently opened one.



- Choose an original (old) MSI package, which is a previous version of the currently opened one, and click Open.



- Click Next to define an update type.



- 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** in order to change the

Product Name of the updated application. Click **Next** to select a patch properties.

Create a Patch Package

Progress bar: Original MSI (checked), **Type of update** (active), Patch properties, Creating patch

Type of update

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

Product version

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

Product code
 New GUID

Target product name

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

< Back **Next >** Cancel

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

Create a Patch Package

Progress bar: Original MSI (checked), Type of update (checked), **Patch properties** (active), Creating patch

Patch properties

Display name

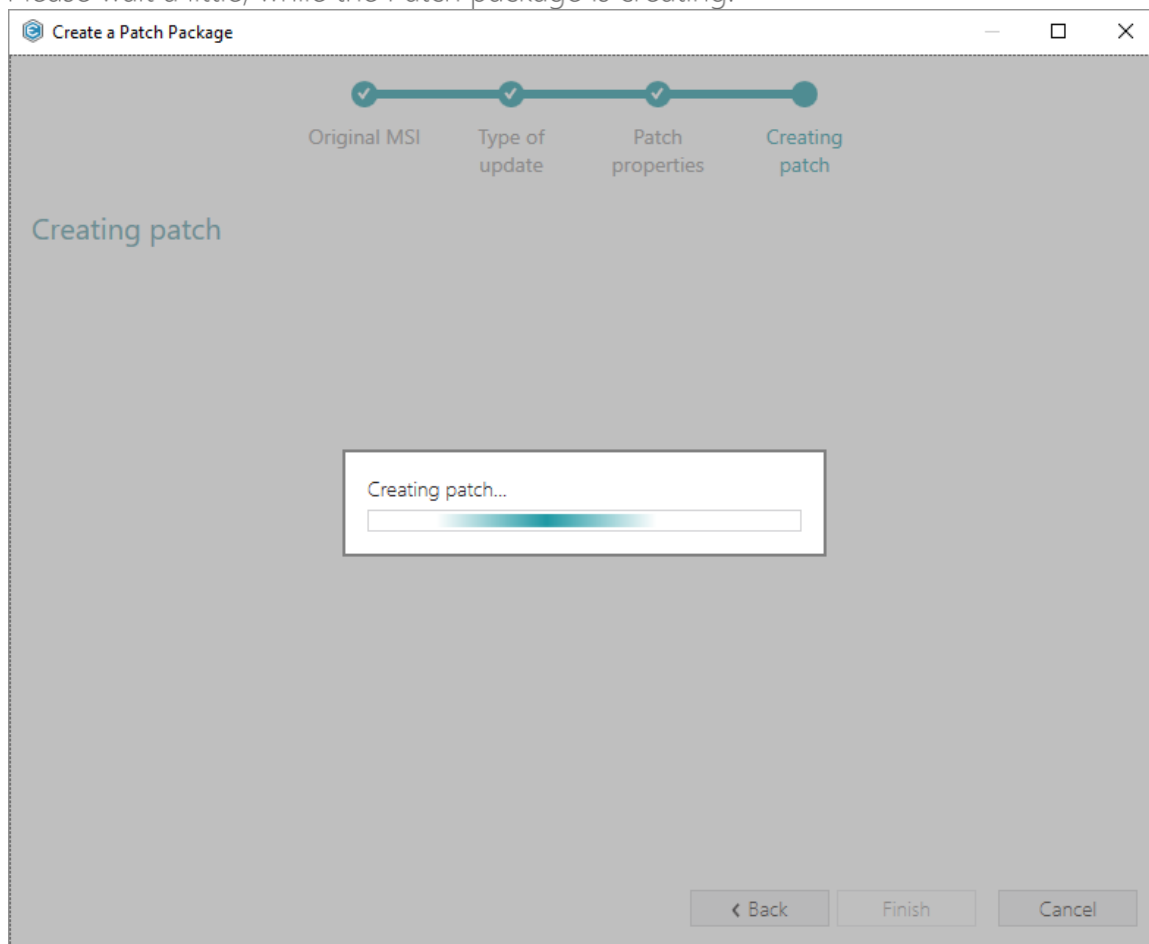
Description

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

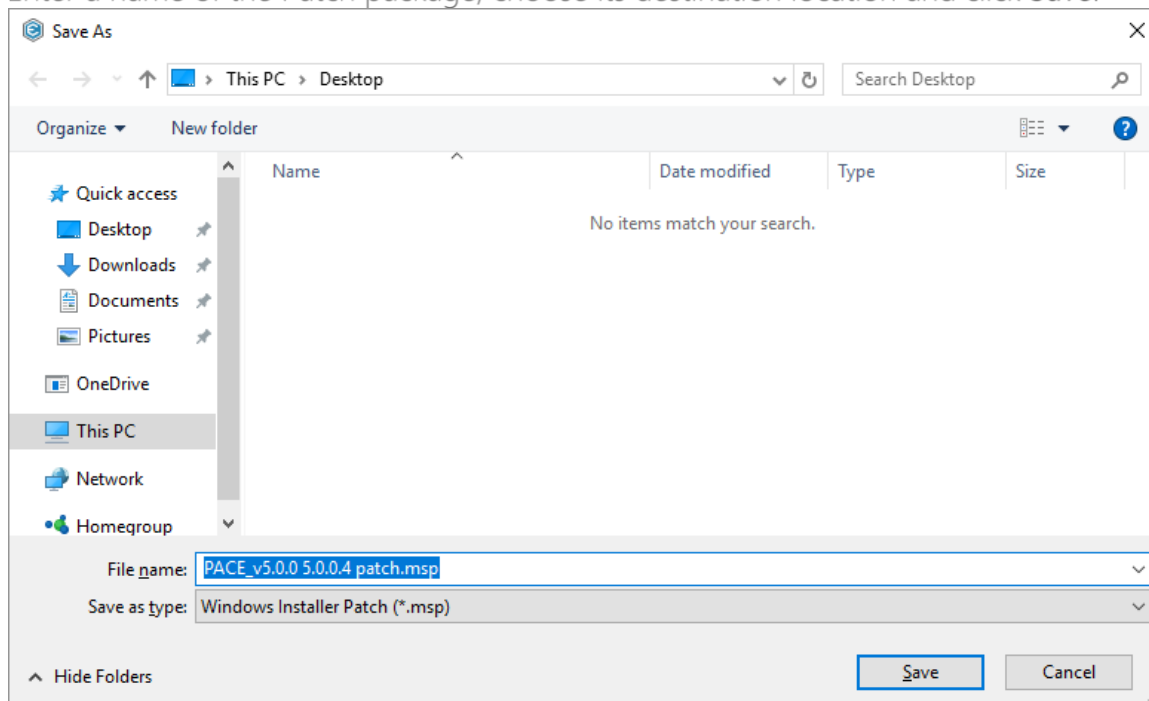
☐ **Include whole files only**
 Changed files are to be included in their entirety when creating the patch package instead of creating a binary file patch. The patch files will be bigger in size but the API runs faster.

< Back **Create >** Cancel

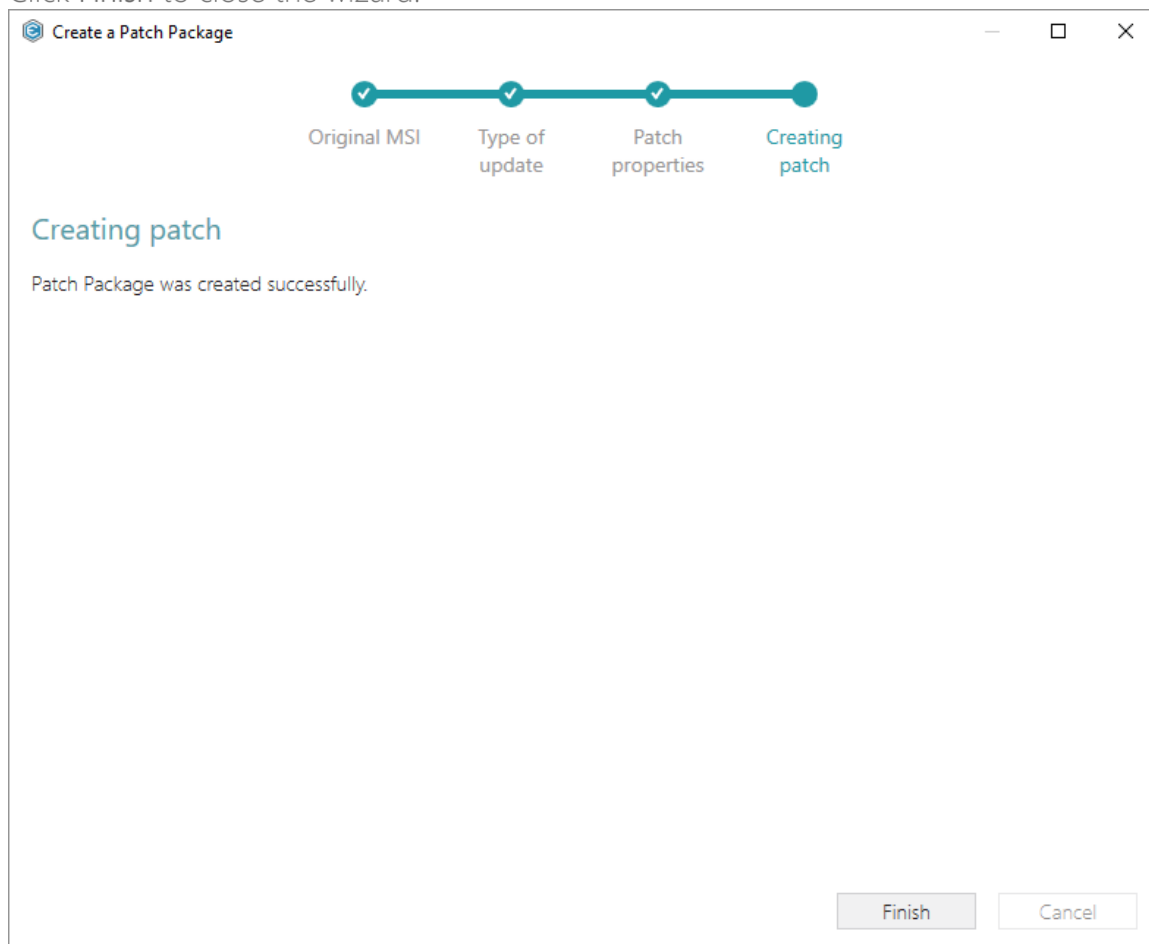
- Please wait a little, while the Patch package is creating.



- Enter a name of the Patch package, choose its destination location and click Save.



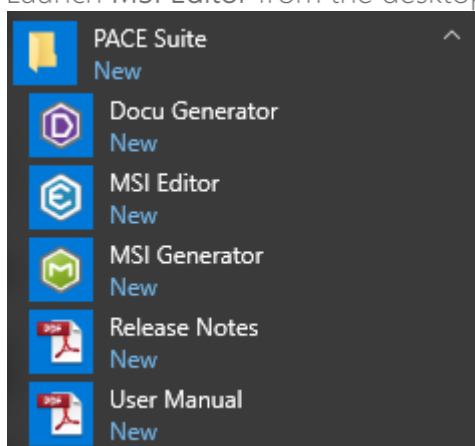
- Click Finish to close the wizard.



3.3.2 Save Changes as MSP

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

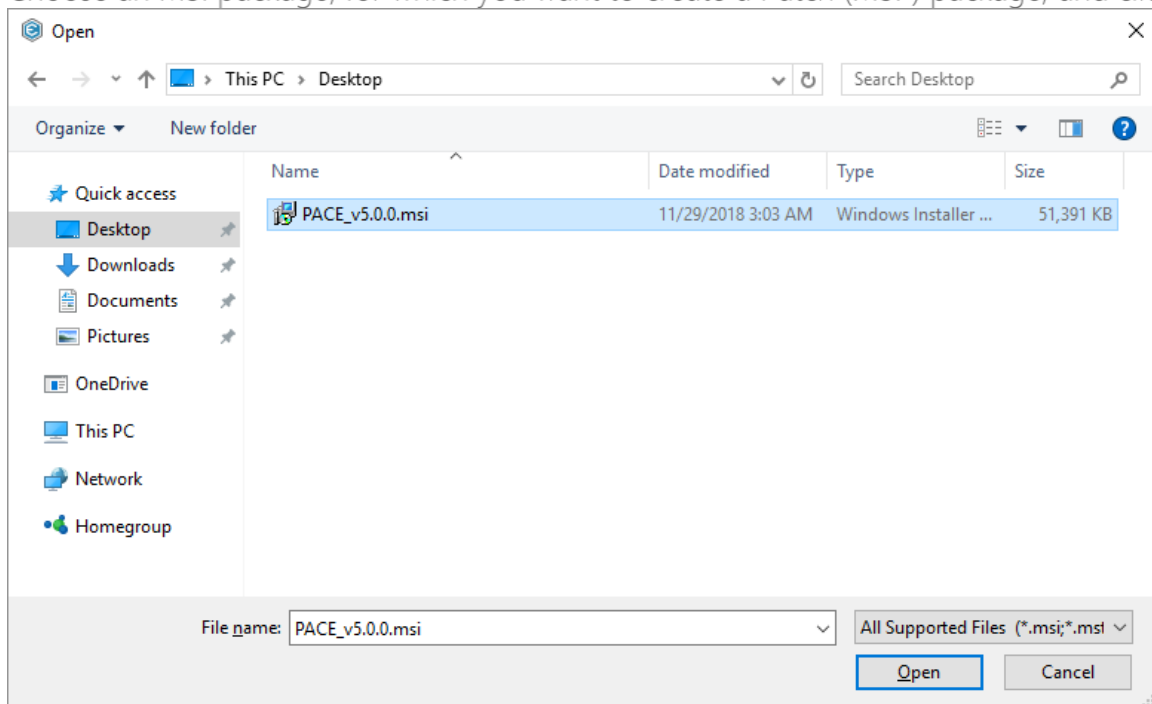
- Launch MSI Editor from the desktop or the start menu shortcut.



- Select Open... from MENU.



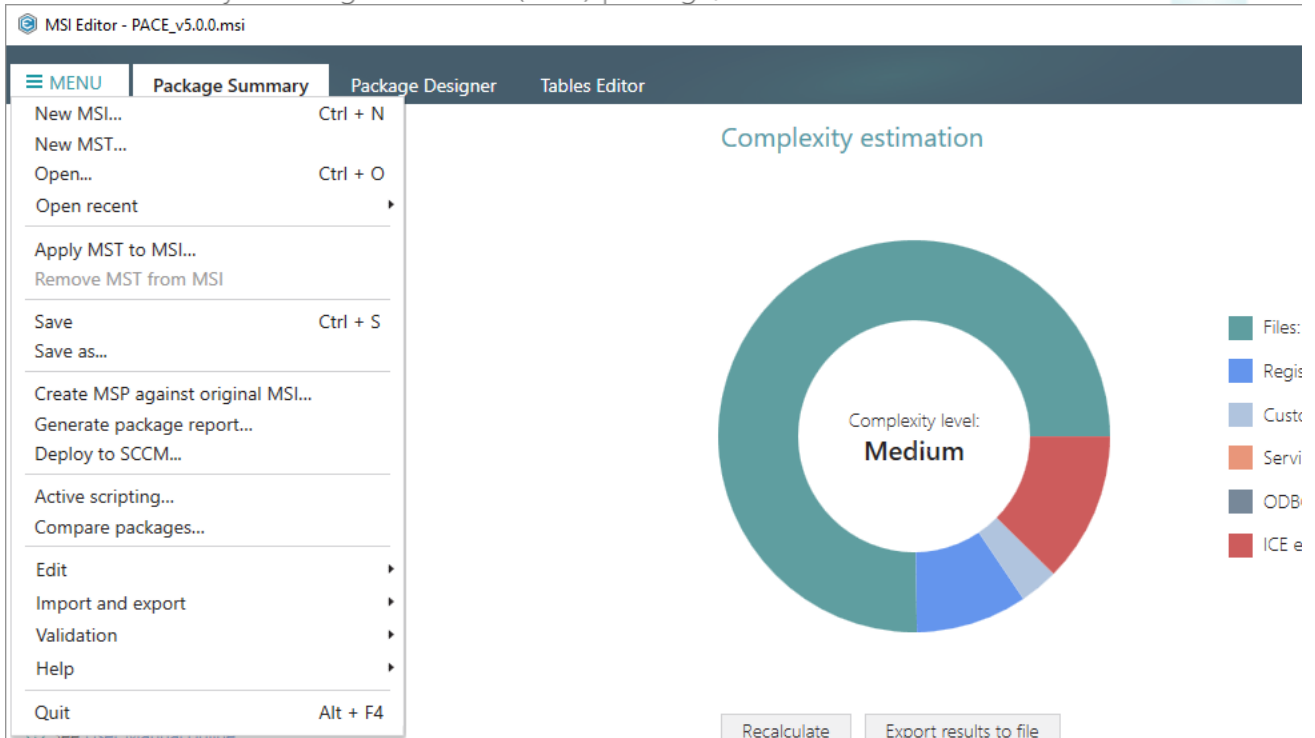
- Choose an MSI package, for which you want to create a Patch (MSP) package, and click Open.



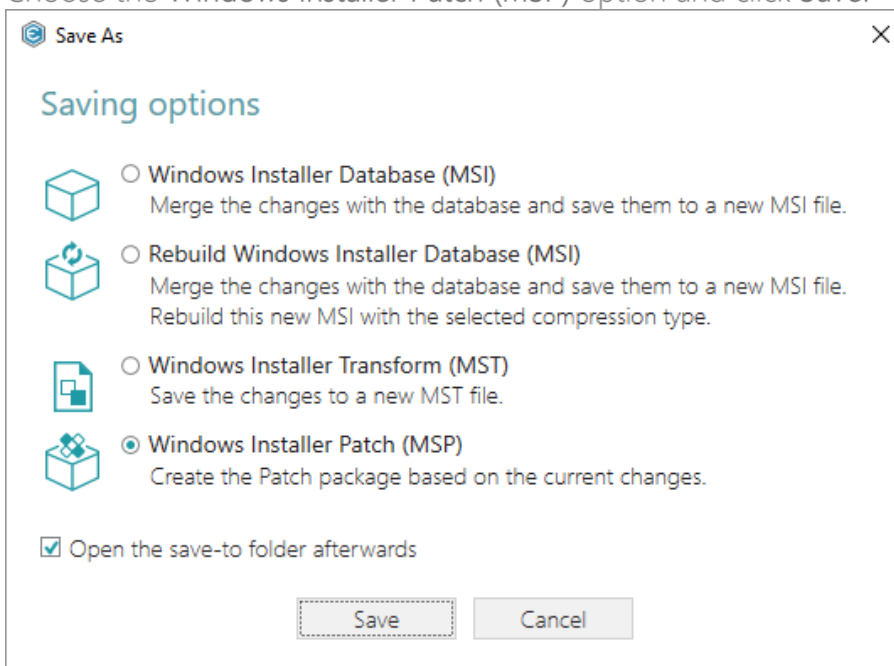
- Now you can start adding the necessary resources, which you want to include to the Patch (MSP) package. For managing package resources and settings, refer to the respective section of this document:
 - For managing Application Details see section 3.7.2
Manage product name, version, language and manufacturer of the application.
 - For managing Package IDs see section 3.7.3
Manage product, upgrade and package codes.

- For managing **Files and Folders** see section 3.7.4
Review package files and folders, add new folders, import files, set permissions, register COM objects and .NET assemblies, set the INSTALLDIR folder and the like.
- For managing **Shortcuts** see section 3.7.5
Review package shortcuts, add new or import existing shortcuts, manage their properties.
- For managing **Registry** see section 3.7.6
Review package registry, add new or import from REG file registry keys and values, integrate ActiveSetup, set permissions and the like.
- For managing **Custom Actions** see section 3.7.7
Manage custom and standard actions of the package, add new one to run scripts, EXE, etc.
- For managing **Drivers** see section 3.7.8
Review the package device drivers, modify and add new ones.
- For managing **Features and Components** see section 3.7.9
Review the feature-component structure and resources, linked with components. Add new features, components and manage their properties.
- For managing **ARP Appearance** see section 3.7.10
Control how the package will be displayed in the App list (Add & Remove Programs).
- For managing **Upgrades** see section 3.7.11
Manage the package upgrade settings to automatically upgrade previous MSI packages.
- For managing **MSI Properties** see section 3.7.12
Manage package properties, defined in the Property table and those, which will be updated by the CustomAction, AppSearch, Control, ComboBox, CheckBox, RadioButton tables.
- For managing **Summary Information** see section 3.7.13
Manage Summary Information of the opened MSI/MST.
- For managing **MSI Tables** see section 3.7.14
Add, import, drop MSI tables.
- For managing **Merge Modules**, described in section 3.7.15
Create new MSM or importing existing MSM to the package.

- In order to save your changes as Patch (MSP) package, select **Save as...** from **MENU**.

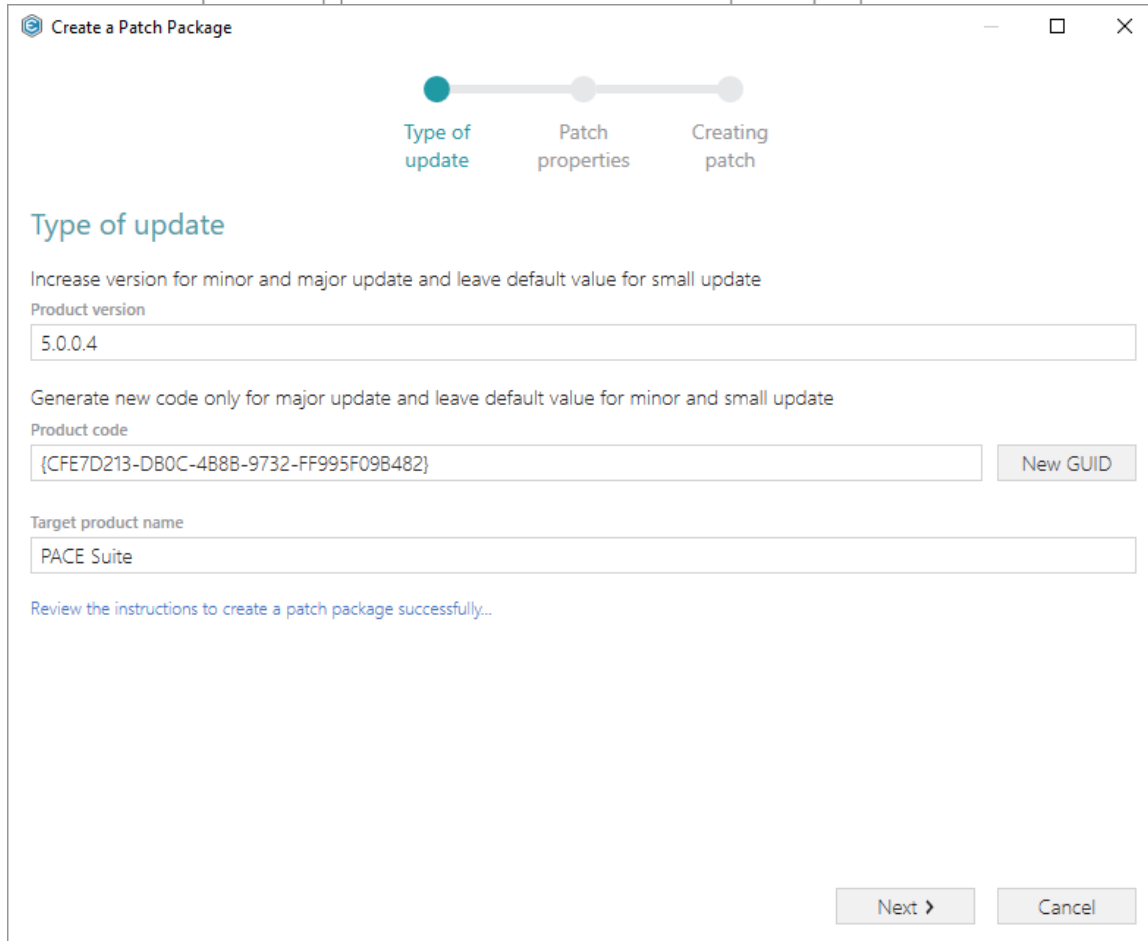


- Choose the **Windows Installer Patch (MSP)** option and click **Save**.



- Increase a **Product** version for the minor and major update and leave default for the small update. Generate new **Product** code only for the major update and leave default for the minor and small update. If needed, update a **Target product** name in order to change the **Product**

Name of the updated application. Click Next to select patch properties.



Create a Patch Package

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

Type of update

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

Product version

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

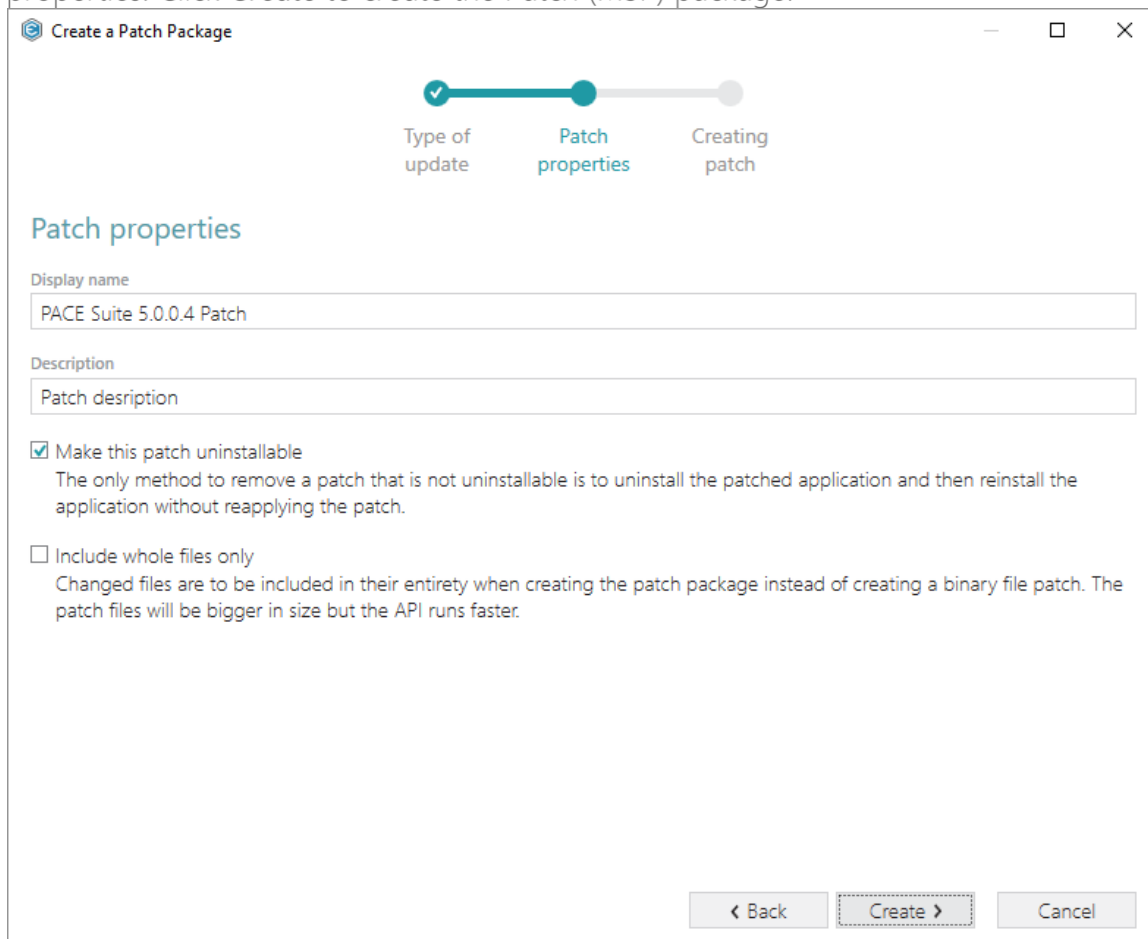
Product code
 New GUID

Target product name

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

Next > Cancel

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



Create a Patch Package

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

Patch properties

Display name

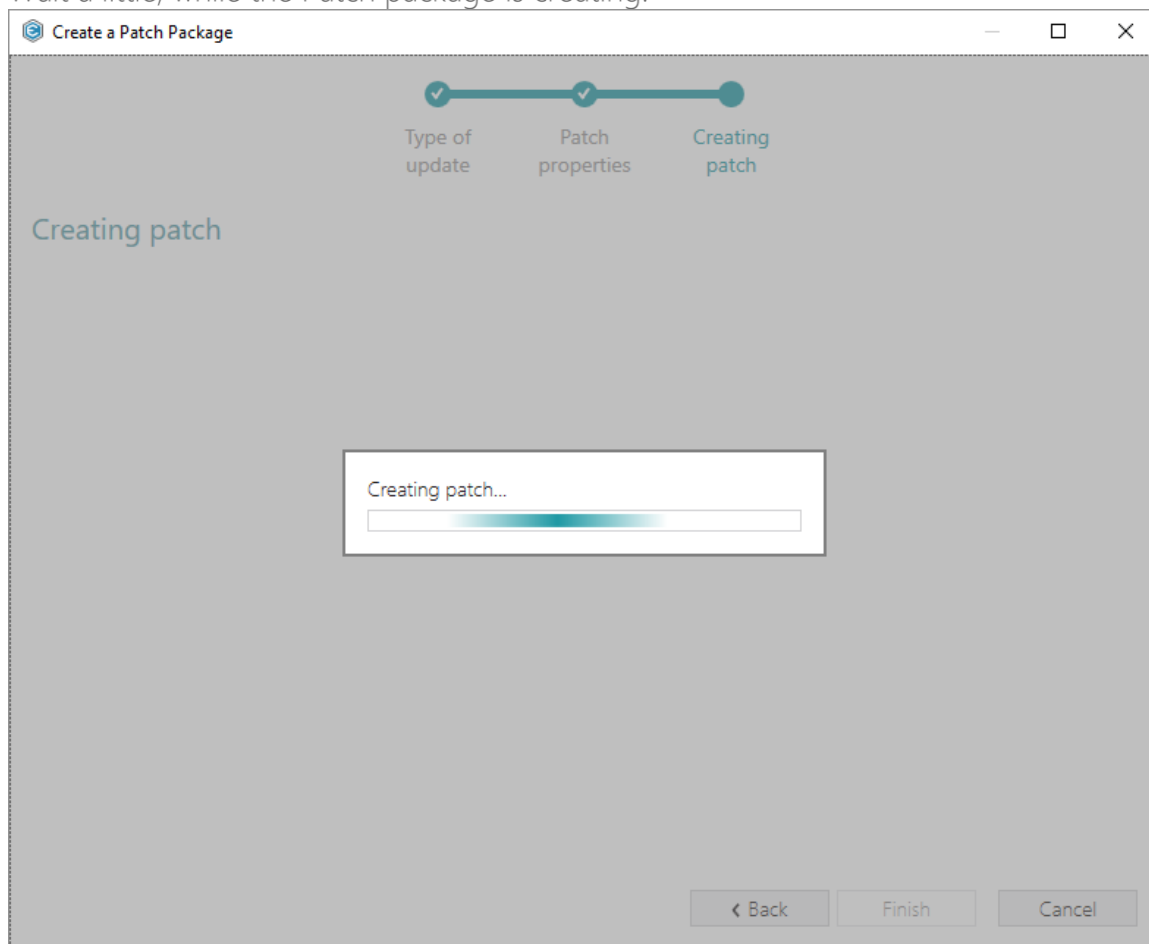
Description

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

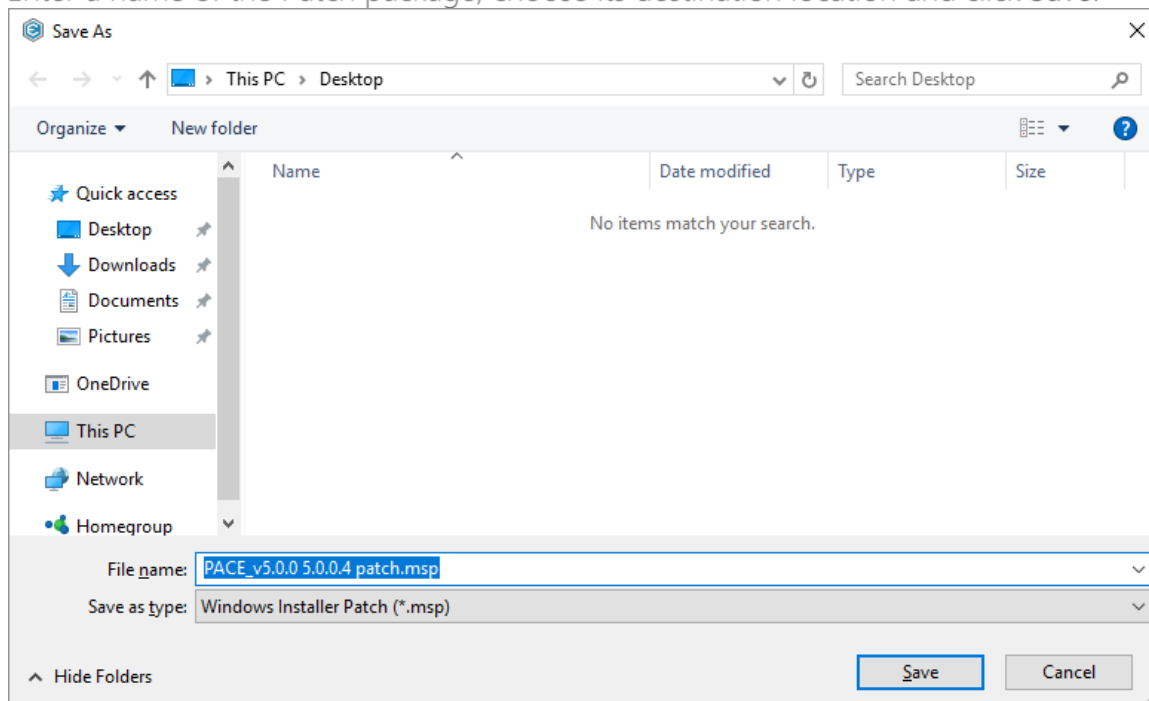
☐ Include whole files only
 Changed files are to be included in their entirety when creating the patch package instead of creating a binary file patch. The patch files will be bigger in size but the API runs faster.

< Back Create > Cancel

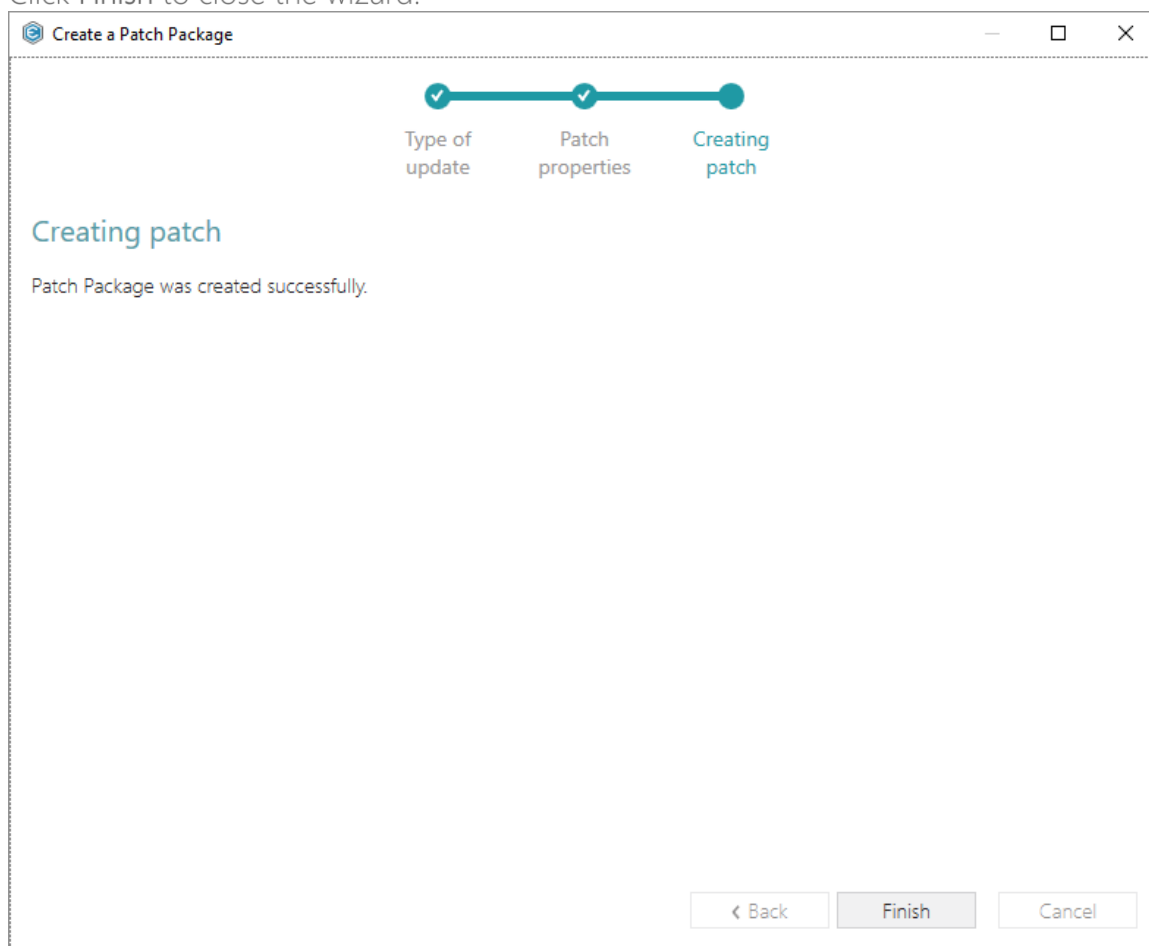
- Wait a little, while the Patch package is creating.



- Enter a name of the Patch package, choose its destination location and click Save.



- Click Finish to close the wizard.



3.4 Create MSIX/APPX

NOTE Building Universal Windows Platform app packages (MSIX, APPX) is available on Windows 10 or Windows Server 2016 or newer.

NOTE Before packaging your app to MSIX/APPX, review [UWP application limitations](#).

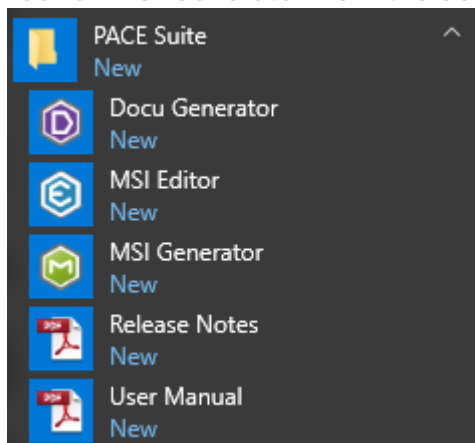
Choose a scenario that better suits your needs:

- Create MSIX/APPX from Scratch, described in section 3.4.1
Create a blank project in MSI Generator, add files, registry, select package settings and build MSIX/APPX package.
- Repackage Installation to MSIX/APPX, described in section 3.4.2
Repackage your source installation (EXE, MSI, VBS, CMD, etc.) into MSIX/APPX package using MSI Generator.

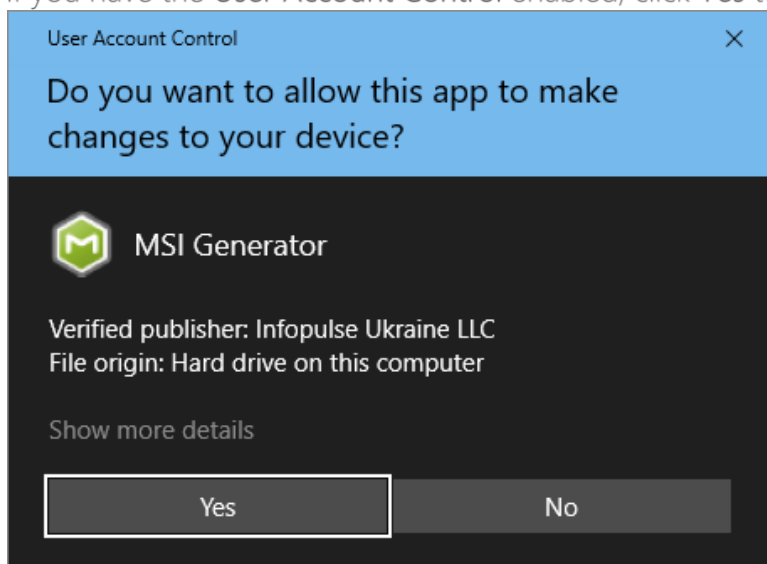
3.4.1 Create MSIX/APPX from Scratch

Create a blank project in MSI Generator, add files, registry, select package settings and build MSIX/APPX package.

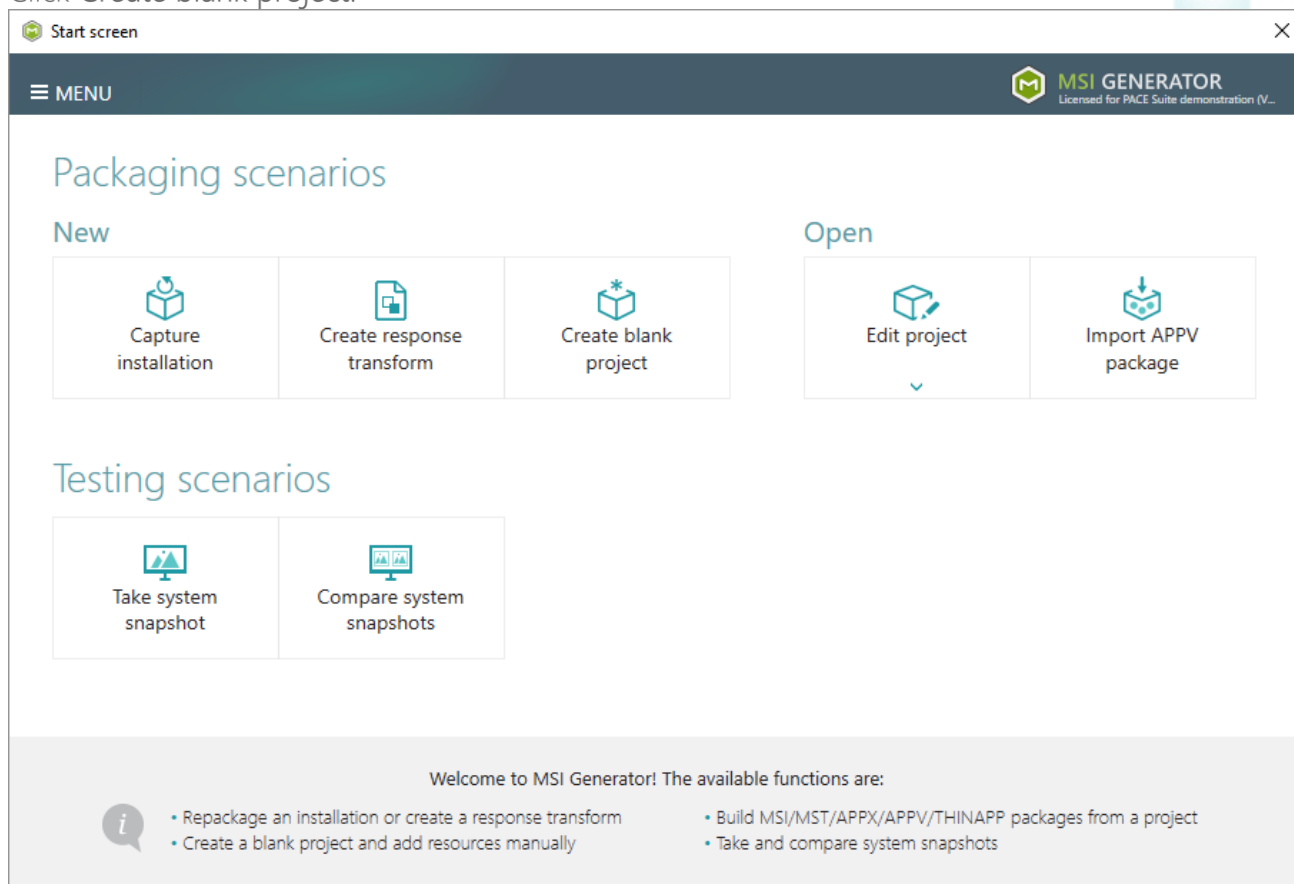
- Launch MSI Generator from the desktop of the start menu shortcut.



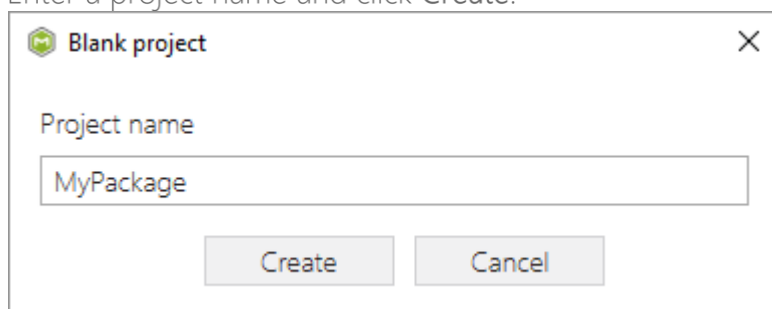
- If you have the User Account Control enabled, click Yes to launch the application.



- Click Create blank project.



- Enter a project name and click Create.



- For managing project resources such as files, folders, and registry refer to the respective section of this document:
 - Regarding File and Folders see section 3.8.2
 - Regarding Registry see section 3.8.3
- For managing MSIX/APPX Settings such as display and identity properties, apps and their visual assets, capabilities, signature, dependencies, bundle, AppInstaller, see section 3.8.7


- Finally, to generate an MSIX/APPX package navigate to the Package -> UWP tab and click Build UWP.

Edit package - PKG-190207-100814.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts/Apps | Properties

MSI | MST | **UWP** | APPV | THINAPP

Display properties

Package logo (50x50)


Display name: Publisher display name:

Description:

Capabilities

Declare access to the protected user resources.

Dependencies

Specify package type (main/modification) and supported platforms.

App Installer

Generate the App Installer file to distribute and update your application with a single click.

Signature

Sign the generated package/bundle.

Architectures & Bundle

Set the compatible processor architectures and bundle options.

UWP package options

Package format:

Application root folder:

☐ Interrupt building the package for manual editing the manifest

Project folder:

Package identity

Name: Publisher:

Version:

BUILD LOG

Type	Elapsed	Step
	00:00	

Elapsed time: 00:00 [Review the UWP application limitations...](#)


- Once the package is built, click Go to..., located next to the Project folder field, to open the package-containing folder in Windows Explorer.

Edit package - PKG-190207-100814.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts/Apps | Properties

MSI | MST | **UWP** | APPV | THINAPP

Display properties

Package logo (50x50)


Display name: Publisher display name:

Description:

Capabilities

Declare access to the protected user resources.

Dependencies

Specify package type (main/modification) and supported platforms.

App Installer

Generate the App Installer file to distribute and update your application with a single click.

Signature

Sign the generated package/bundle.

Architectures & Bundle

Set the compatible processor architectures and bundle options.

UWP package options

Package format:

Application root folder:

☐ Interrupt building the package for manual editing the manifest

Project folder:

Package identity

Name: Publisher:

Version:

BUILD LOG

Type	Elapsed	Step
	00:00:21	Operation was completed successfully
	00:00:21	C:\Users\pace\Documents\MSI Generator\Packages\PKG-190207-100814\
	00:00:21	Creating App Installer
	00:00:01	Creating C:\Users\pace\Documents\MSI Generator\Packages\PKG-190207-
	00:00:01	Generating manifest Manifest_neutral.xml

Elapsed time: 00:00:21 [Review the UWP application limitations...](#)

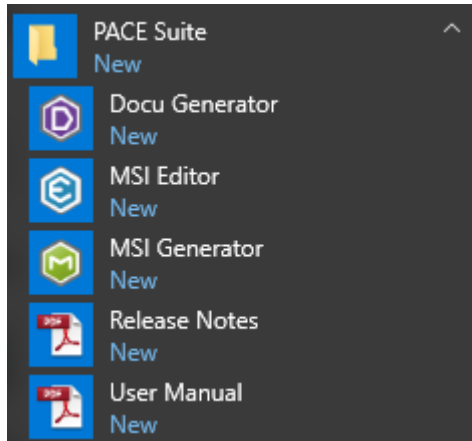
- To install the generated UWP package, (1) enable the [Developer Mode or Sideload apps](#) on the target system and (2) ensure that the certificate, used for signing, is trusted on that system. If you are using the self signed certificate, install it manually to the Trusted People or Trusted Publishers local machine certificate store. By adding a certificate to local machine certificate stores, you affect the certificate trust of all users on the computer. It is recommended that you

remove those certificates when they are no longer necessary to prevent them from being used to compromise system trust.

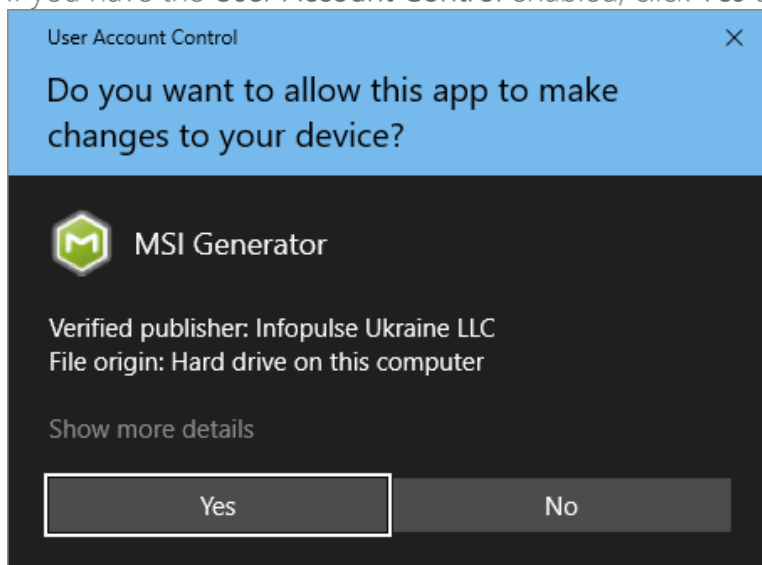
3.4.2 Repackage Installation to MSIX/APPX

Repackage your source installation (EXE, MSI, VBS, CMD, etc.) into MSIX/APPX package using MSI Generator.

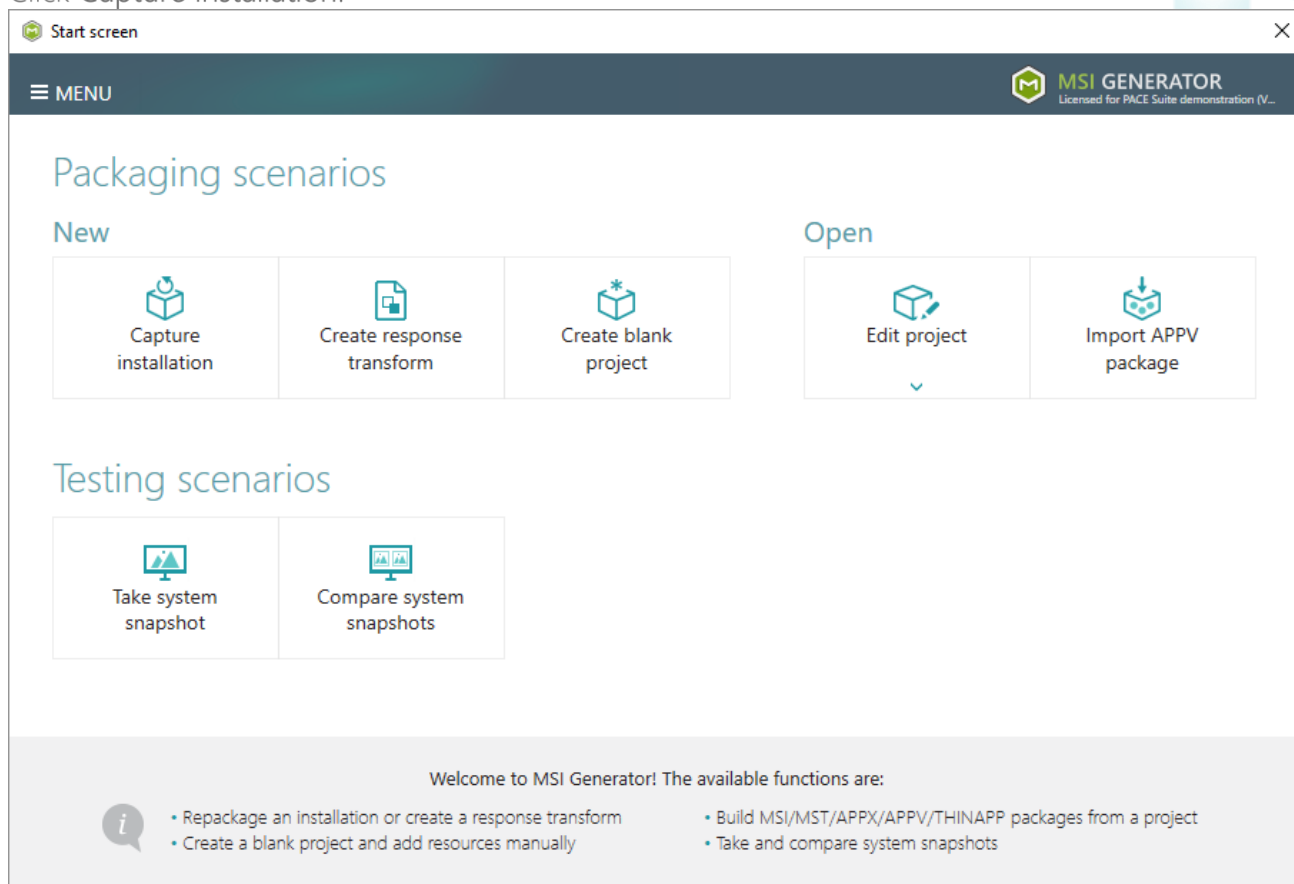
- Launch MSI Generator from the desktop of the start menu shortcut.



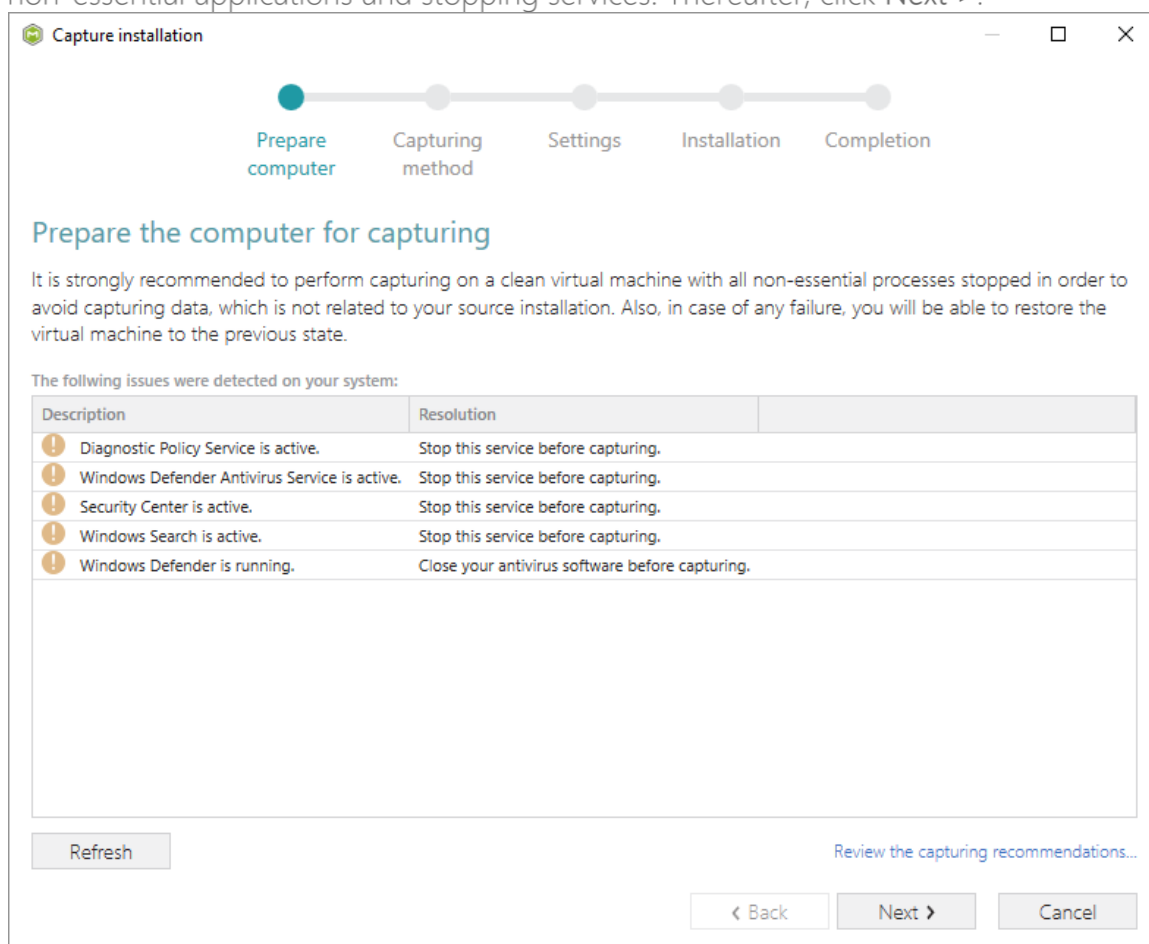
- If you have the User Account Control enabled, click Yes to launch the application.



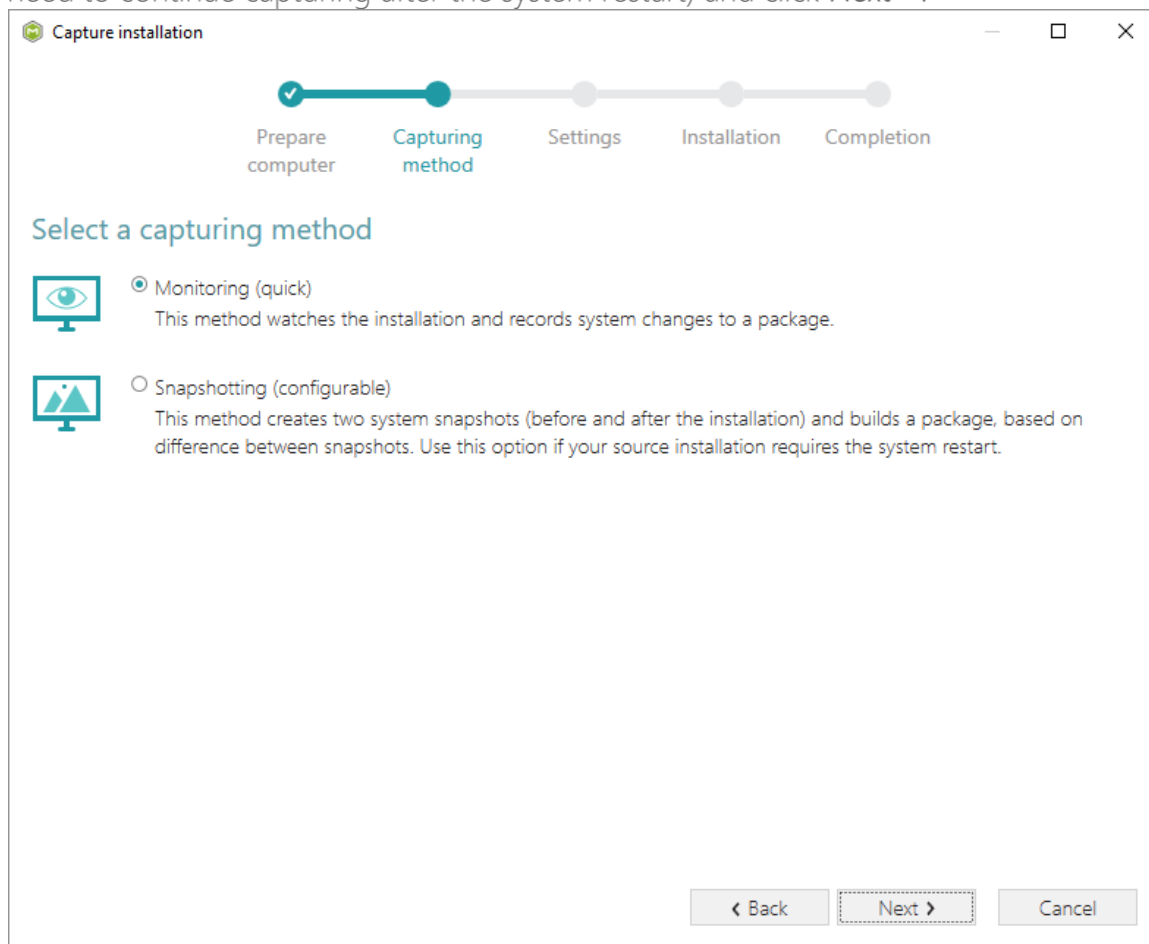
- Click Capture installation.



- Review the issues, which were detected on your system, and try to resolve them by closing the non-essential applications and stopping services. Thereafter, click Next >.



- Select the **Monitoring** method for the quicker capturing (or use the **Snapshotting** one if you need to continue capturing after the system restart) and click **Next >**.



- Review and update package name. If needed, disable unnecessary exclusion filters and scanning areas. Click **Next >** to start the capturing.

The screenshot shows the 'Capture installation' window with the 'Settings' tab selected. The progress bar at the top indicates the following steps: Prepare computer (completed), Capturing method (completed), Settings (active), Installation, and Completion. The 'Package name' field contains 'PKG-170912-154800'. Under 'Exclusion filters', the text 'Apply the following filters to the captured resources:' is followed by three checked items: 'AllWindowsOS', 'Win7', and 'Win8-10'. Under 'Scanning areas', the text 'Application objects:' is followed by three checked items: 'Permissions', 'Services', and 'Printers'. At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

Capture installation

Prepare computer Capturing method **Settings** Installation Completion

Settings

Package name
PKG-170912-154800

Exclusion filters

Apply the following filters to the captured resources:

- ☒ AllWindowsOS
- ☒ Win7
- ☒ Win8-10

Scanning areas

Application objects:

- ☒ Permissions
- ☒ Services
- ☒ Printers

< Back Next > Cancel

- Click **Select and run...** to choose source installation for repackaging.

The screenshot shows the 'Capture installation' window with the 'Installation' tab selected. The progress bar at the top indicates the following steps: Prepare computer (completed), Capturing method (completed), Settings (completed), Installation (active), and Completion. The main heading is 'Install your applications now'. Below it, a paragraph states: 'Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.' Below this paragraph is a button labeled 'Select and run...'. Under the heading 'Detected MSI Installation', there is a table with three columns: 'State', 'Copied', and 'Name'. The table is currently empty. Below the table, a note states: 'Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.' Below the note, a paragraph states: 'Once the installation is completed, select "I have finished the installation" and click "Next".' Below this paragraph is a checkbox labeled 'I have finished the installation'. At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

Capture installation

Prepare computer Capturing method Settings **Installation** Completion

Install your applications now

Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.

Select and run...

Detected MSI Installation

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

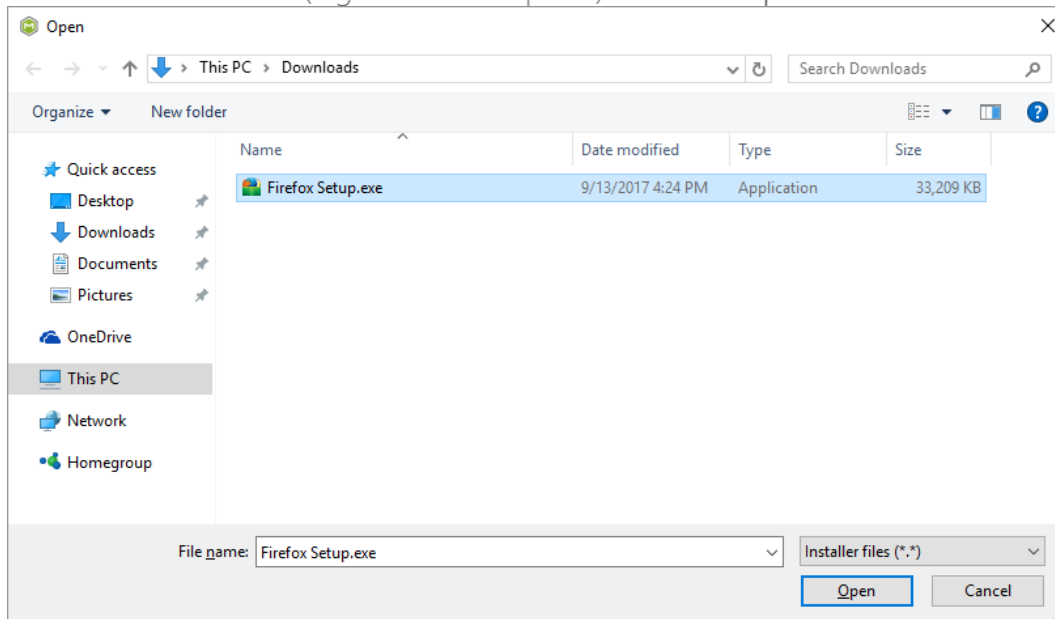
Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.

Once the installation is completed, select "I have finished the installation" and click "Next".

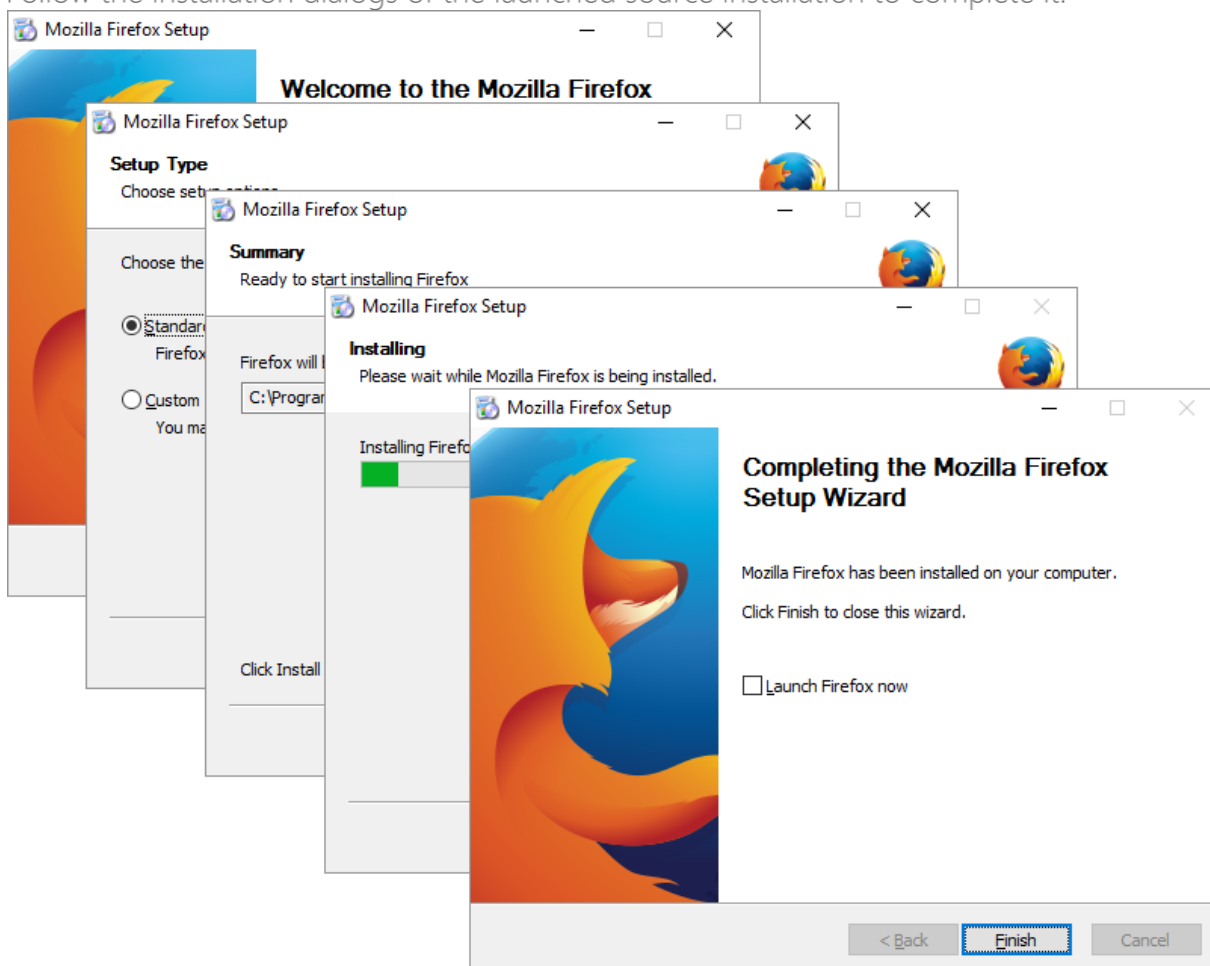
☐ I have finished the installation

< Back Next > Cancel

- Select the installer file (e.g. Firefox Setup.exe) and click Open.



- Follow the installation dialogs of the launched source installation to complete it.



- Now you can make any additional changes to the file system and registry, which you want to capture along with source installation and include to the package. For instance, you can copy or edit configuration files, import REG file to the system registry, change file, folder permissions, or launch the installed application in order to capture the necessary application configurations, like disabling updates and so on.

- Finally, to complete the capturing, select I have finished the installation and click Next >.

Prepare computer Capturing method Settings **Installation** Completion

Install your applications now

Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.

Select and run...

State	Copied	Name

Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.

Once the installation is completed, select "I have finished the installation" and click "Next".

☒ I have finished the installation

< Back **Next >** Cancel

- Wait a little, while the capturing process is finishing, filtering captured data and creating the project.

Capture installation

✓

✓

✓

Prepare computer

Capturing method

Settings

Installation

Completion

Install your applications now

Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.

Select and run...

Detected MSI Installation

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

Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.

Once the installation is completed, select "I have finished the installation" and click "Next".

☒ I have finished the installation

00:08

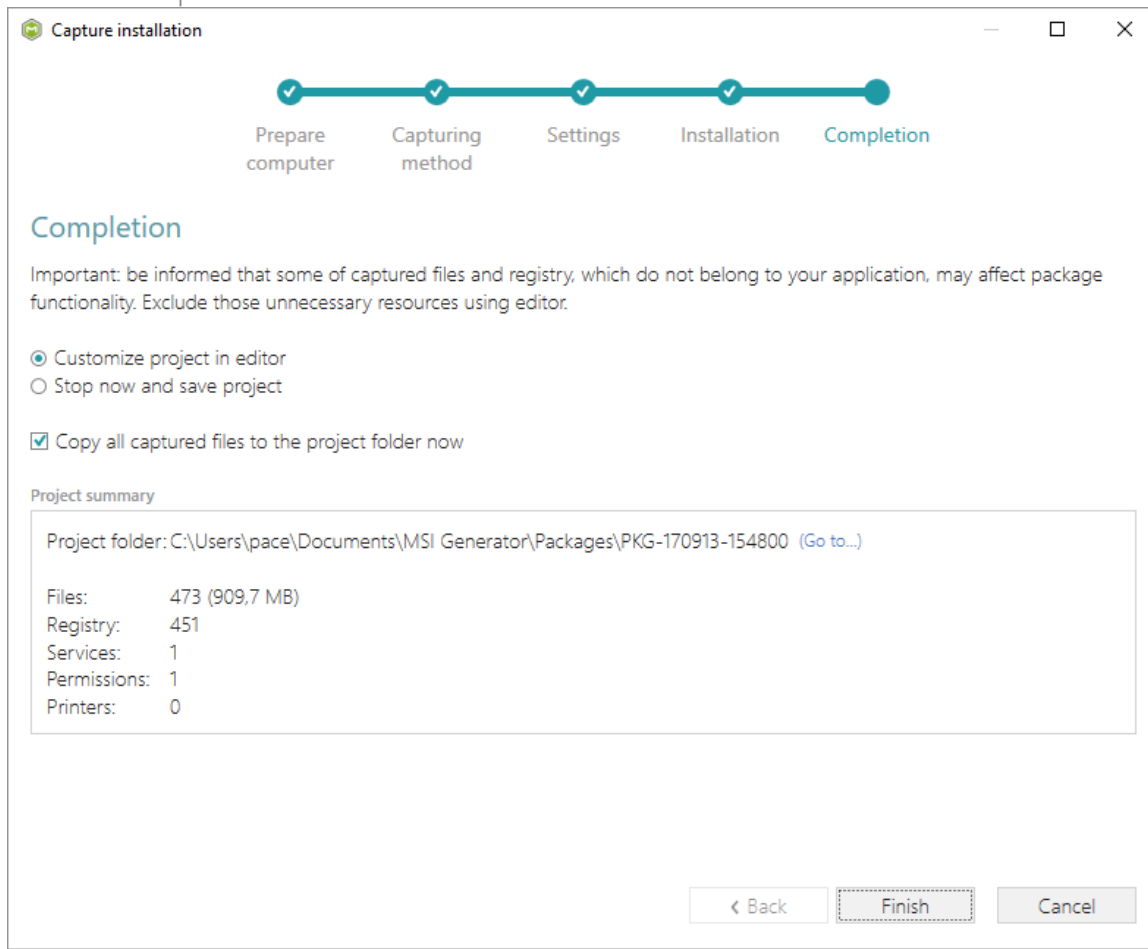
Scanning Services

< Back

Next >

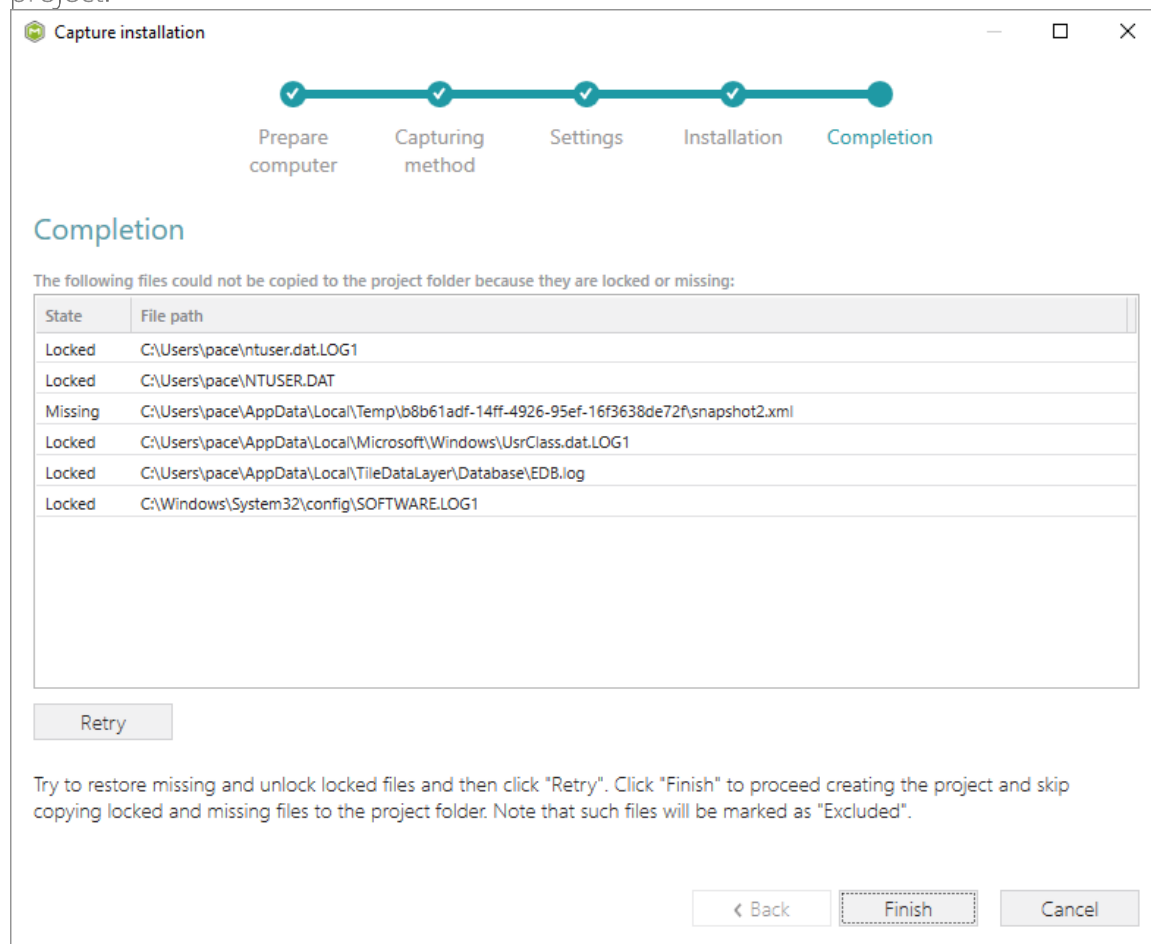
Cancel

- Leave selected both the Customize project in editor and Copy all captured files to the project folder now options and click Finish.



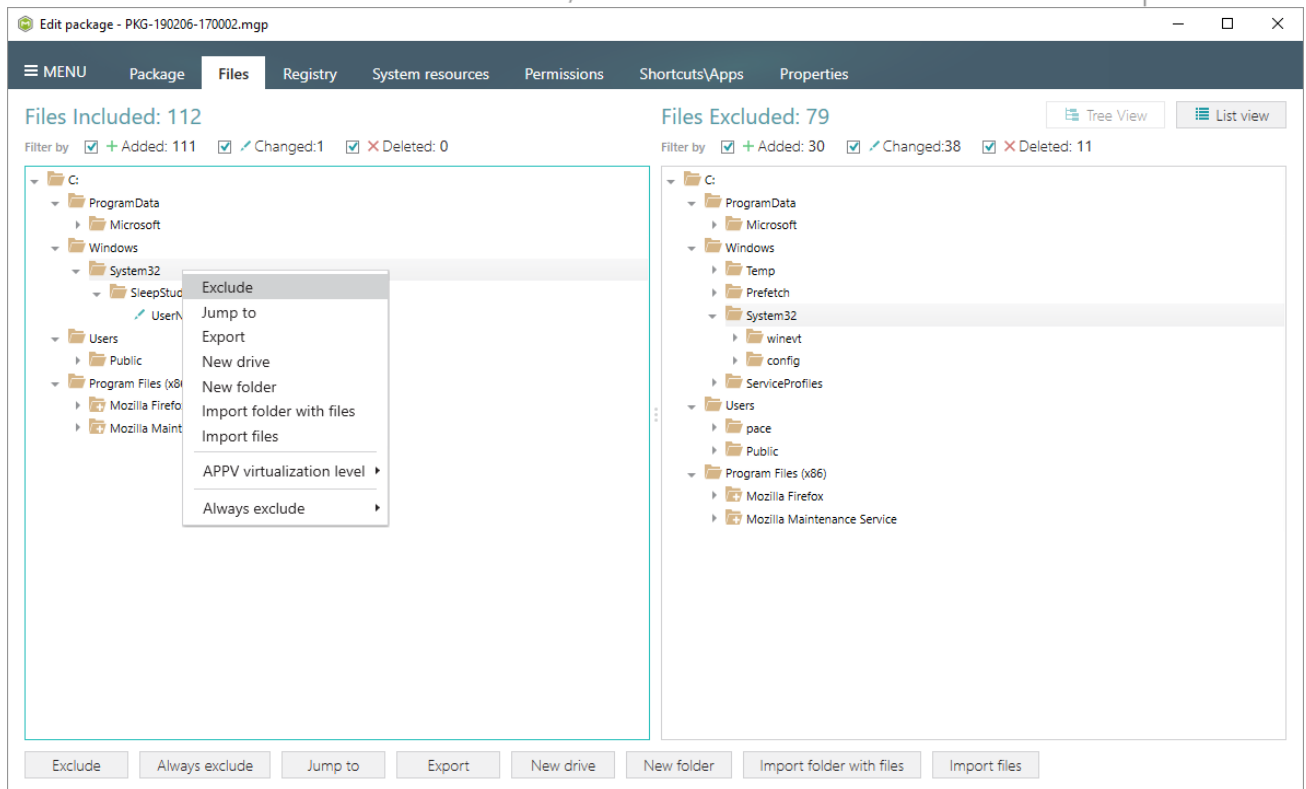
- If some of captured files are locked or missing and as result they could not be copied to the project folder, they will be displayed as illustrated below. Usually, the displayed files are system noise and do not refer to the captured application. Click **Finish** to continue with skipping locked and missing files. Note that such files will be automatically marked as 'Excluded' in your

project.

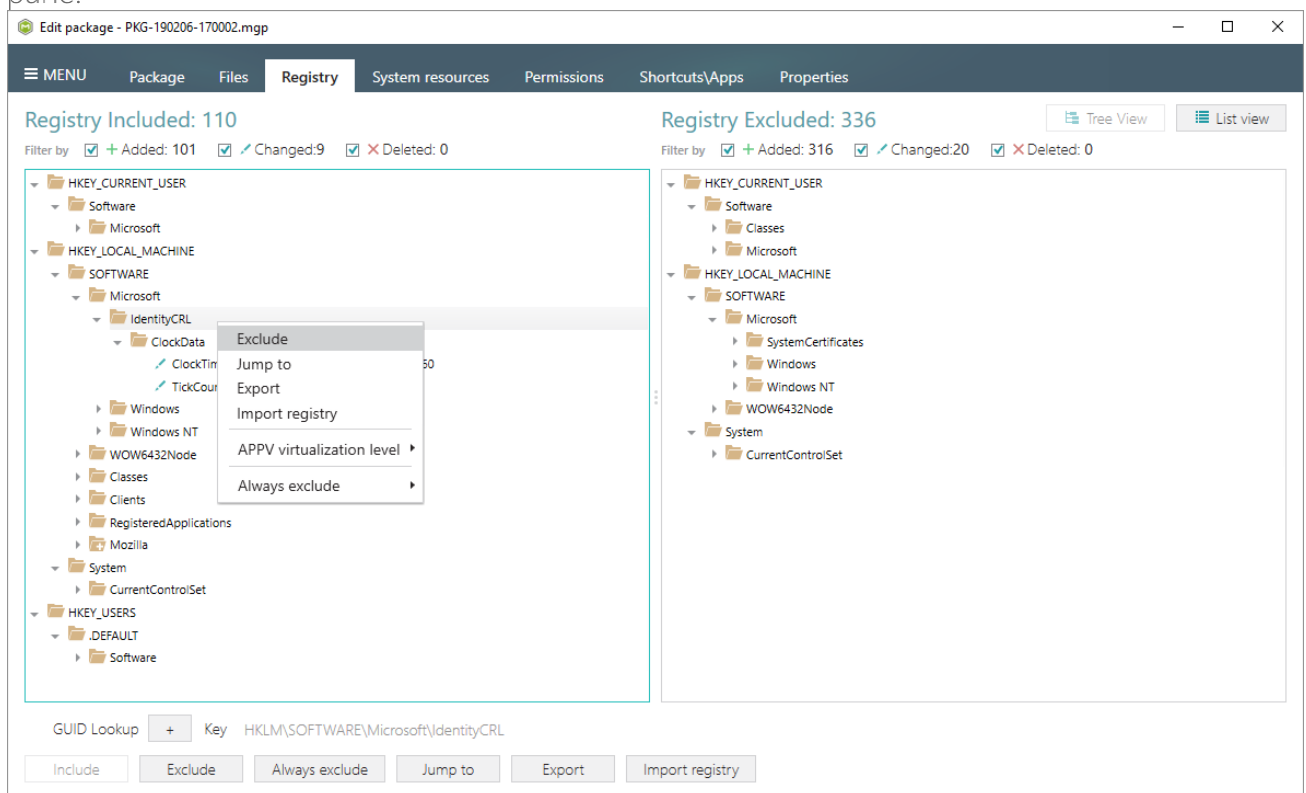


- Once the project is opened in the project editor, it is strongly recommended to review the Files, Registry, System resources, Permissions, and Shortcuts\Apps tabs and exclude the accidentally captured resources, which do not belong to the application. Such accidentally captured resources are also called system noise and it could be Windows Updates, Search indexing, Antivirus software and so on.

- In order to review and exclude unnecessary files or folders, go to the Files tab, and select Exclude from the context menu of an item, which is located in the left 'Files Included' pane.

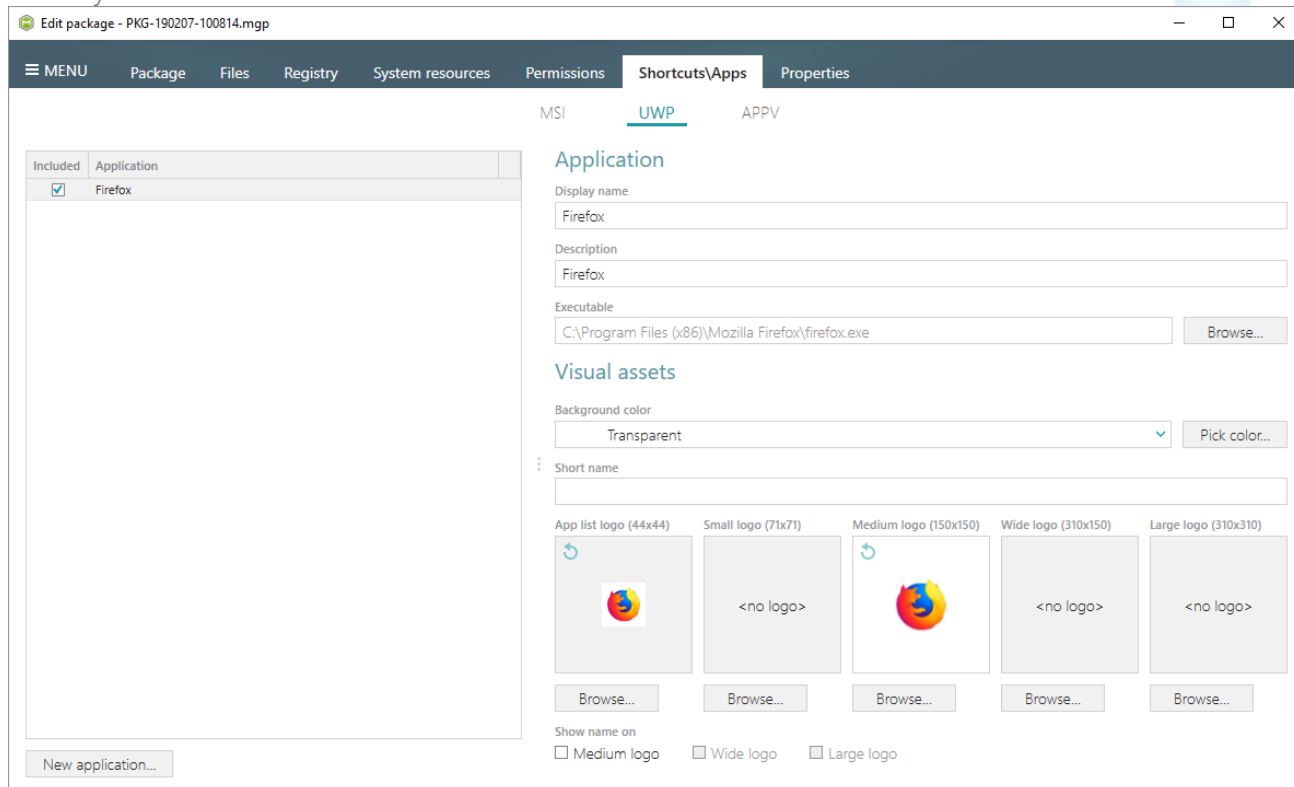


- In order to review and exclude unnecessary registry keys or values, go to the Registry tab, and select Exclude from the context menu of an item, which is located in the left 'Registry Included' pane.

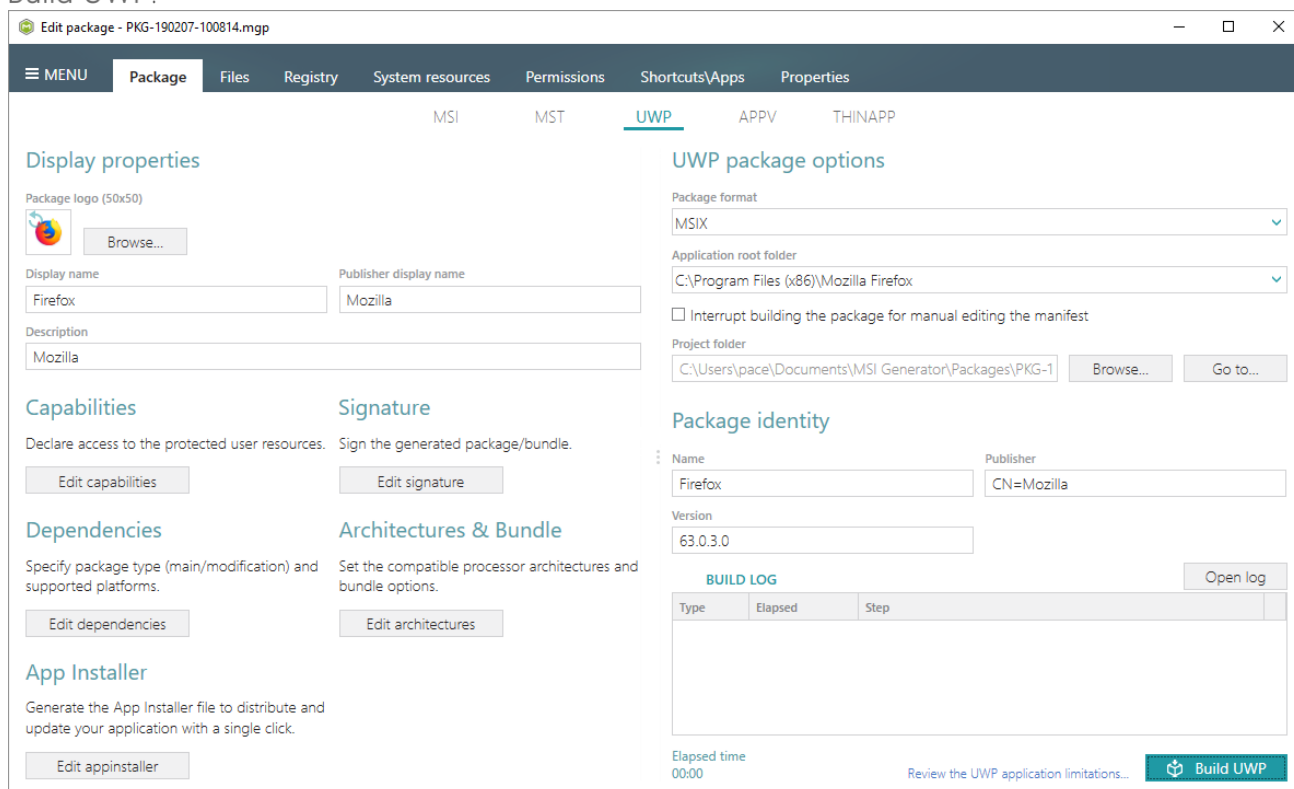


- In order to review and exclude the unnecessary MSIX/APPX apps, go to the Shortcuts/Apps -> UWP tab, and untick the checkbox, located before the app name in the list, for those apps,

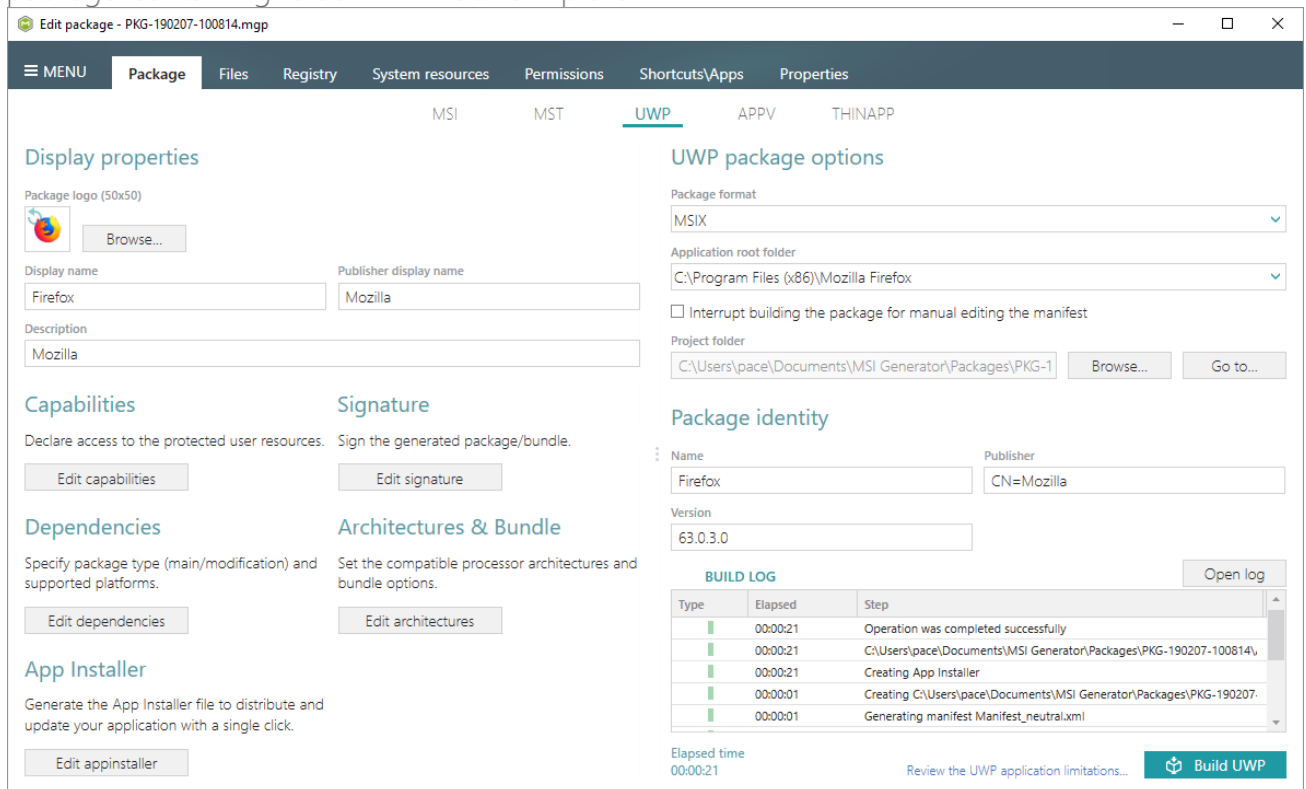
which you want to exclude.



- For managing MSIX/APPX Settings such as display and identity properties, apps and their visual assets, capabilities, signature, dependencies, bundle, AppInstaller, see section 3.8.7
- Finally, to generate an MSIX/APPX package navigate to the Package -> UWP tab and click Build UWP.



- Once the package is built, click **Go to...**, located next to the Project folder field, to open the package-containing folder in Windows Explorer.



- To install the generated UWP package, (1) enable the [Developer Mode or Sideload apps](#) on the target system and (2) ensure that the certificate, used for signing, is trusted on that system. If you are using the self signed certificate, install it manually to the Trusted People or Trusted Publishers local machine certificate store. By adding a certificate to local machine certificate stores, you affect the certificate trust of all users on the computer. It is recommended that you remove those certificates when they are no longer necessary to prevent them from being used to compromise system trust.

3.5 Create APPV

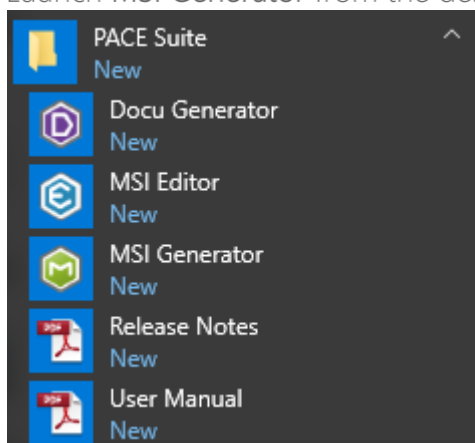
Choose a scenario that better suits your needs:

- Create APPV from Scratch, described in section 3.5.1
Create a new empty project in MSI Generator, add folders, files, registry entries and APPV apps, shortcuts and FTAs to this project and then generate the APPV 5.0/5.1/1607 (5.2) package from this project.
- Repackage Installation to APPV, described in section 3.5.2
Repackage your source installation (EXE, MSI, VBS, CMD, etc.) into APPV 5.0/5.1/1607 (5.2) package using MSI Generator.

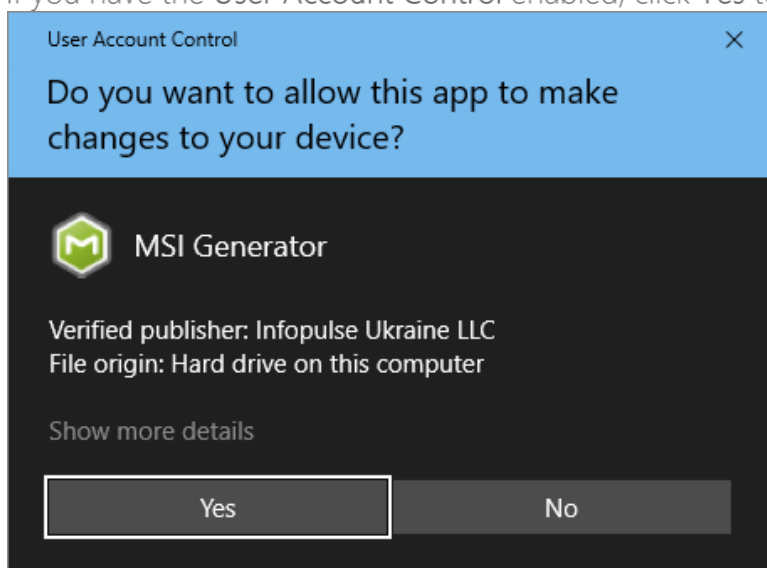
3.5.1 Create APPV from Scratch

Create a new empty project in MSI Generator, add folders, files, registry entries and APPV apps, shortcuts and FTAs to this project and then generate the APPV 5.0/5.1/1607 (5.2) package from this project.

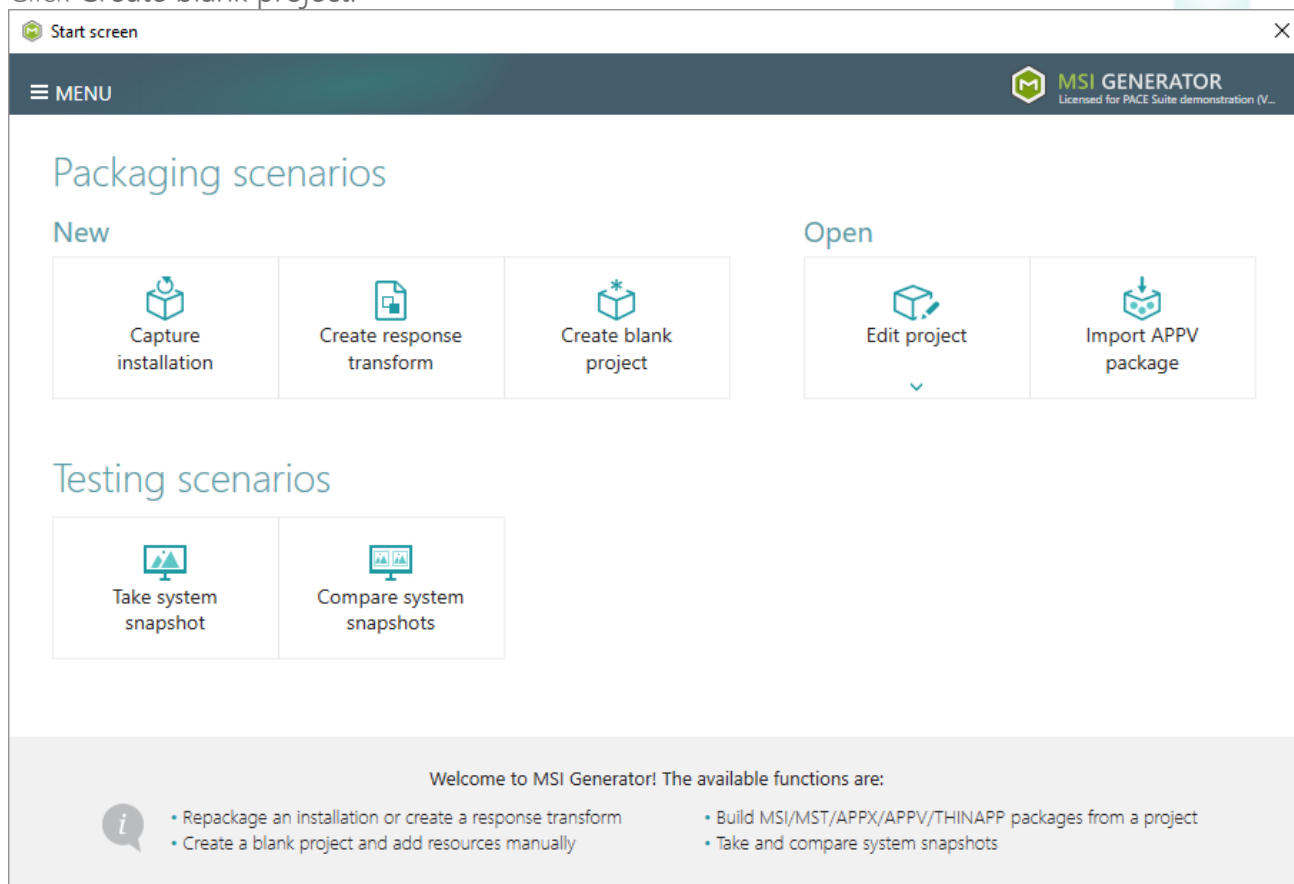
- Launch MSI Generator from the desktop of the start menu shortcut.



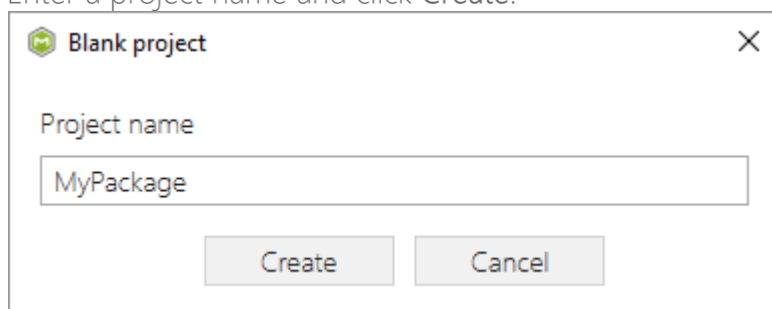
- If you have the User Account Control enabled, click Yes to launch the application.



- Click Create blank project.



- Enter a project name and click Create.



- For managing project resources such as files, folders, and registry refer to the respective section of this document:
 - Regarding File and Folders see section 3.8.2
 - Regarding Registry see section 3.8.3
- For managing APPV Settings such as application details, target OS, PVAD, streamin settings, APPV version, virtualization level for the folders and registry keys, APPV apps, their shortcuts and file type associations (FTA), see section 3.8.8

- Finally, to generate an APPV package navigate to the Package -> APPV tab and click Build APPV.

Edit package - PKG-190207-100814.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts/Apps | Properties

MSI | MST | UWP | **APPV** | THINAPP

Application Details

Application name:

Version:

Publisher:

App-V Package Options

App-V version:

Package name:

Package folder:

Description:

App-V Settings

Primary virtual application directory (PVAD):

Streaming options:

☐ Force application to be fully downloaded before launching.

Target OS:

☒ Allow this package to be run on any operating system

☐ Allow this package to be run only on the selected operating systems

Advanced options:

☐ Allow all named objects to interact with the local system

☐ Allow all COM objects to interact with the local system

☐ Allow virtual application full write permissions to the virtual file system

☐ Enable Browser Helper Objects

BUILD LOG

Type	Elapsed	Step

Elapsed time: 00:00

- Once the package is built, click Go to..., located next to the Project folder field, to open the package-containing folder in Windows Explorer.

Edit package - PKG-190207-100814.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts/Apps | Properties

MSI | MST | UWP | **APPV** | THINAPP

Application Details

Application name:

Version:

Publisher:

App-V Package Options

App-V version:

Package name:

Package folder:

Description:

App-V Settings

Primary virtual application directory (PVAD):

Streaming options:

☐ Force application to be fully downloaded before launching.

Target OS:

☒ Allow this package to be run on any operating system

☐ Allow this package to be run only on the selected operating systems

Advanced options:

☐ Allow all named objects to interact with the local system

☐ Allow all COM objects to interact with the local system

☐ Allow virtual application full write permissions to the virtual file system

☐ Enable Browser Helper Objects

BUILD LOG

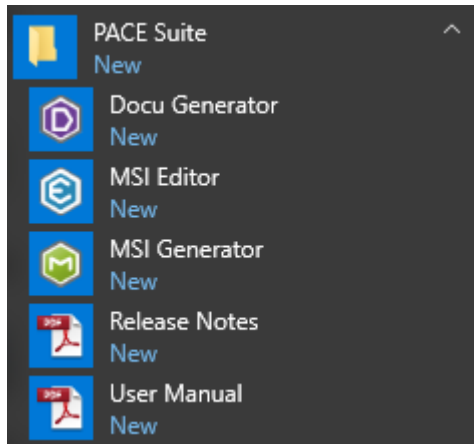
Type	Elapsed	Step
	00:00:30	Operation was completed successfully
	00:00:08	Saving package
	00:00:08	Processing software clients
	00:00:08	Processing environment variables
	00:00:08	Processing URL protocols
	00:00:08	Processing application capabilities
	00:00:08	Processing FTAs
	00:00:08	Processing browser plugins
	00:00:07	Processing COM objects
	00:00:07	Processing services
	00:00:07	Processing registry

Elapsed time: 00:00:30

3.5.2 Repackage Installation to APPV

Repackage your source installation (EXE, MSI, VBS, CMD, etc.) into APPV 5.0/5.1/1607 (5.2) package using MSI Generator.

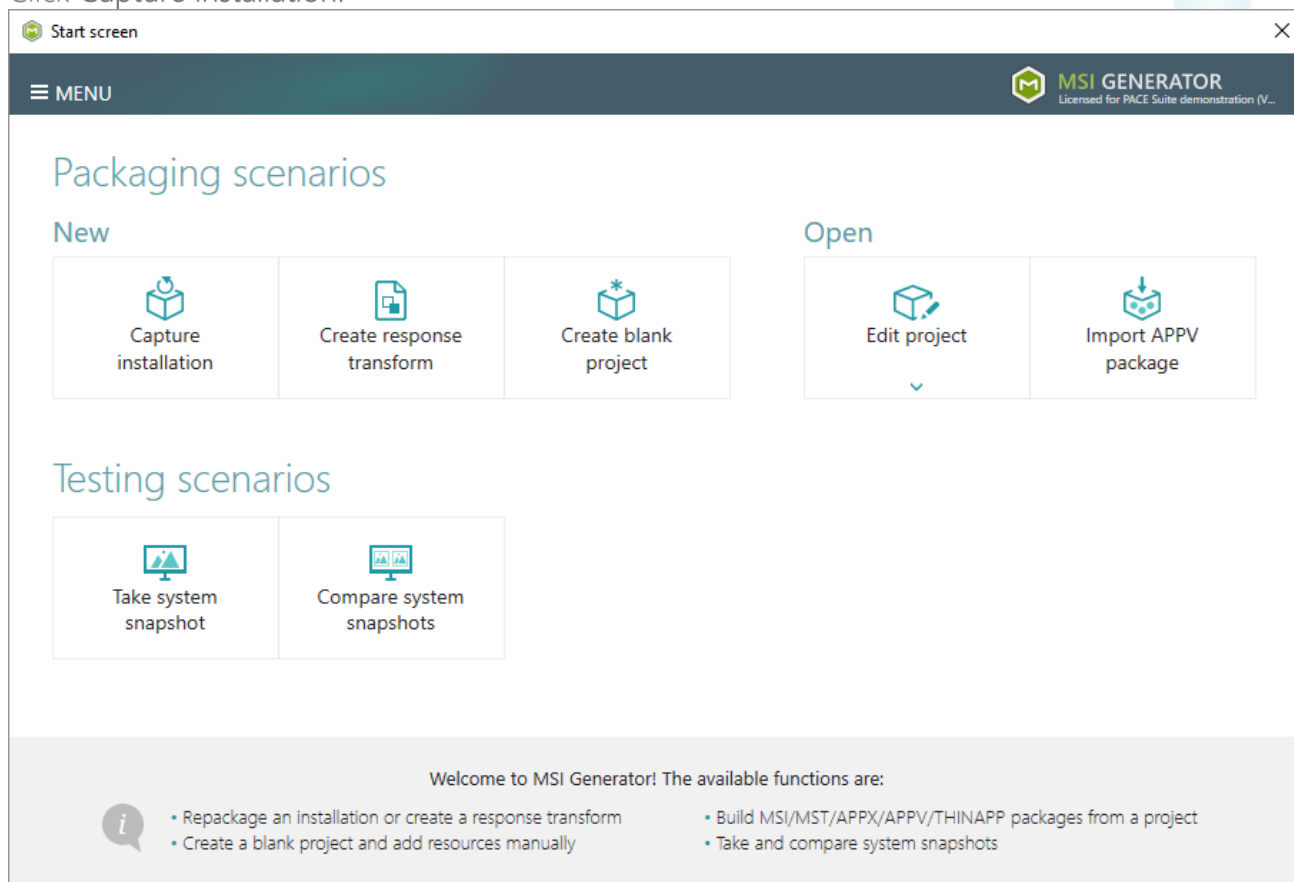
- Launch MSI Generator from the desktop or the start menu shortcut.



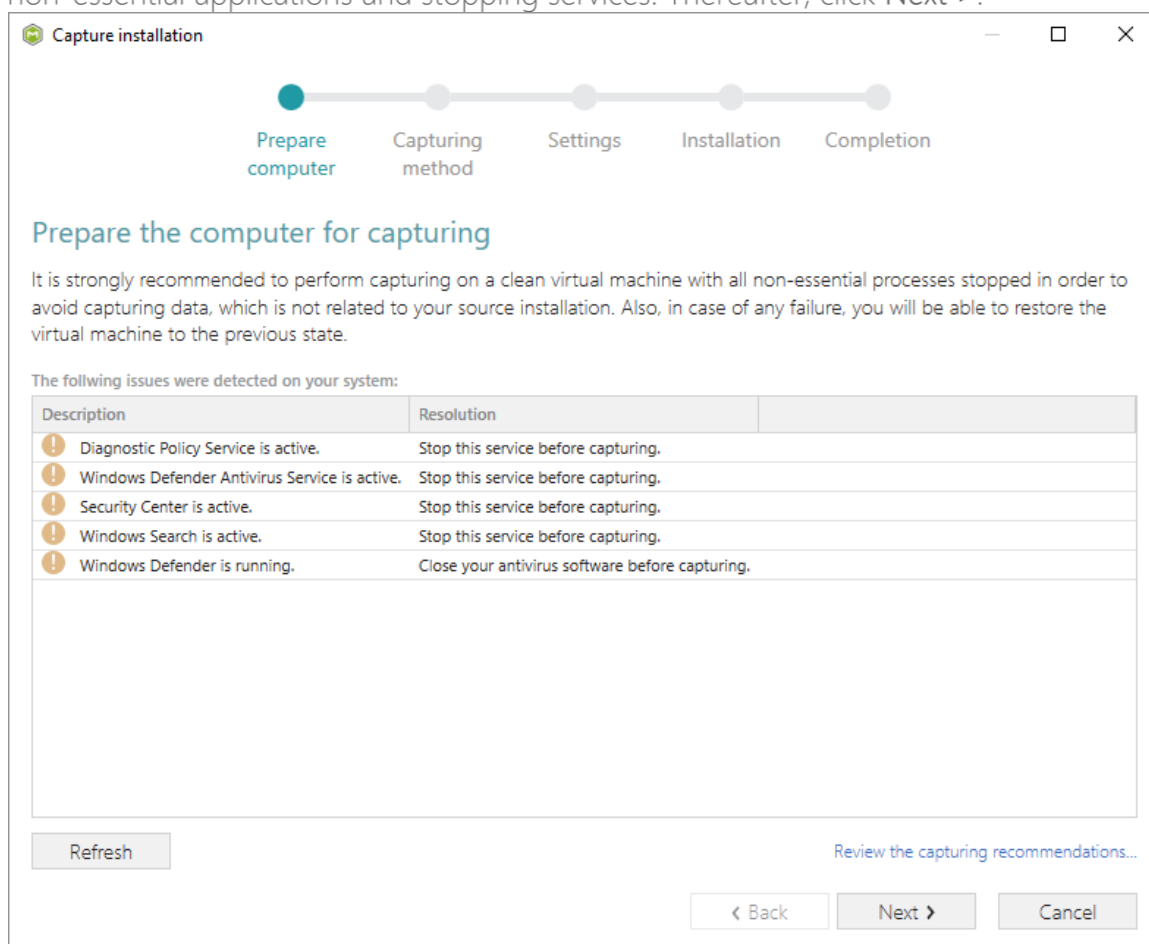
- If you have the User Account Control enabled, click Yes to launch the application.



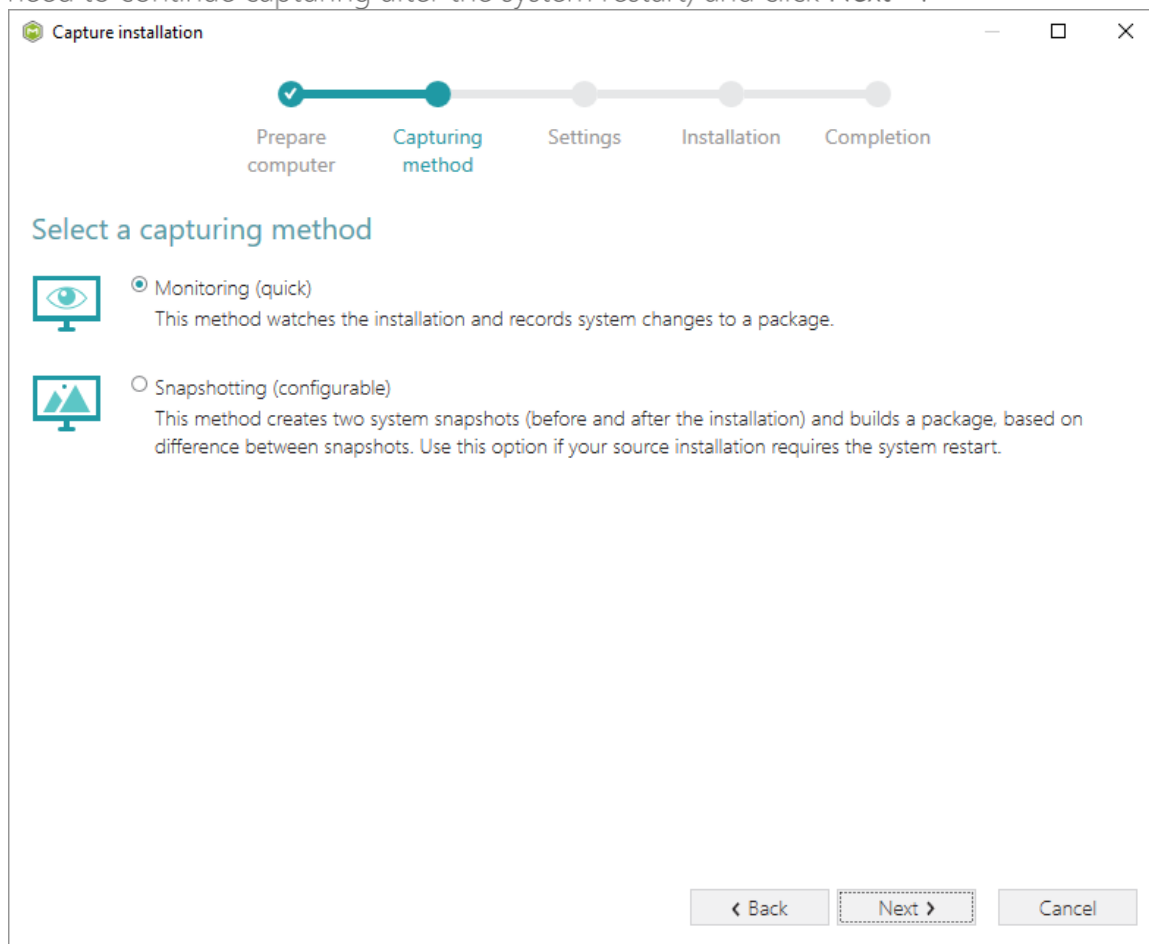
- Click Capture installation.



- Review the issues, which were detected on your system, and try to resolve them by closing the non-essential applications and stopping services. Thereafter, click Next >.



- Select the **Monitoring** method for the quicker capturing (or use the **Snapshotting** one if you need to continue capturing after the system restart) and click **Next >**.



- Review and update package name. If needed, disable unnecessary exclusion filters and scanning areas. Click **Next >** to start the capturing.

The screenshot shows the 'Capture installation' window with the 'Settings' tab selected. The progress bar at the top indicates the following steps: Prepare computer (completed), Capturing method (completed), Settings (active), Installation, and Completion. The 'Package name' field contains 'PKG-170912-154800'. Under 'Exclusion filters', the text 'Apply the following filters to the captured resources:' is followed by three checked items: 'AllWindowsOS', 'Win7', and 'Win8-10'. Under 'Scanning areas', the text 'Application objects:' is followed by three checked items: 'Permissions', 'Services', and 'Printers'. At the bottom, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

Capture installation

Prepare computer Capturing method **Settings** Installation Completion

Settings

Package name
PKG-170912-154800

Exclusion filters

Apply the following filters to the captured resources:

- ☒ AllWindowsOS
- ☒ Win7
- ☒ Win8-10

Scanning areas

Application objects:

- ☒ Permissions
- ☒ Services
- ☒ Printers

< Back Next > Cancel

- Click **Select and run...** to choose source installation for repackaging.

The screenshot shows the 'Capture installation' window with the 'Installation' tab selected. The progress bar at the top indicates the following steps: Prepare computer (completed), Capturing method (completed), Settings (completed), Installation (active), and Completion. The main heading is 'Install your applications now'. Below it, a text block states: 'Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.' Below this text is a button labeled 'Select and run...'. A section titled 'Detected MSI Installation' contains a table with columns 'State', 'Copied', and 'Name'. The table is currently empty. Below the table, a note states: 'Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.' Below the note, another text block states: 'Once the installation is completed, select "I have finished the installation" and click "Next".' Below this text is a checkbox labeled 'I have finished the installation'. At the bottom, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

Capture installation

Prepare computer Capturing method Settings **Installation** Completion

Install your applications now

Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.

Select and run...

Detected MSI Installation

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

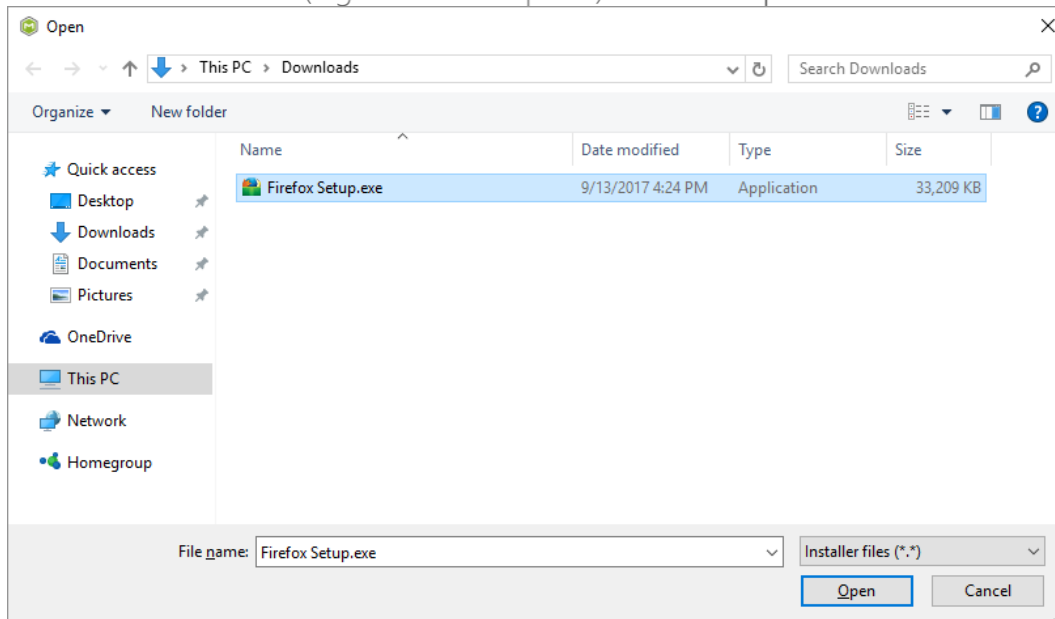
Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.

Once the installation is completed, select "I have finished the installation" and click "Next".

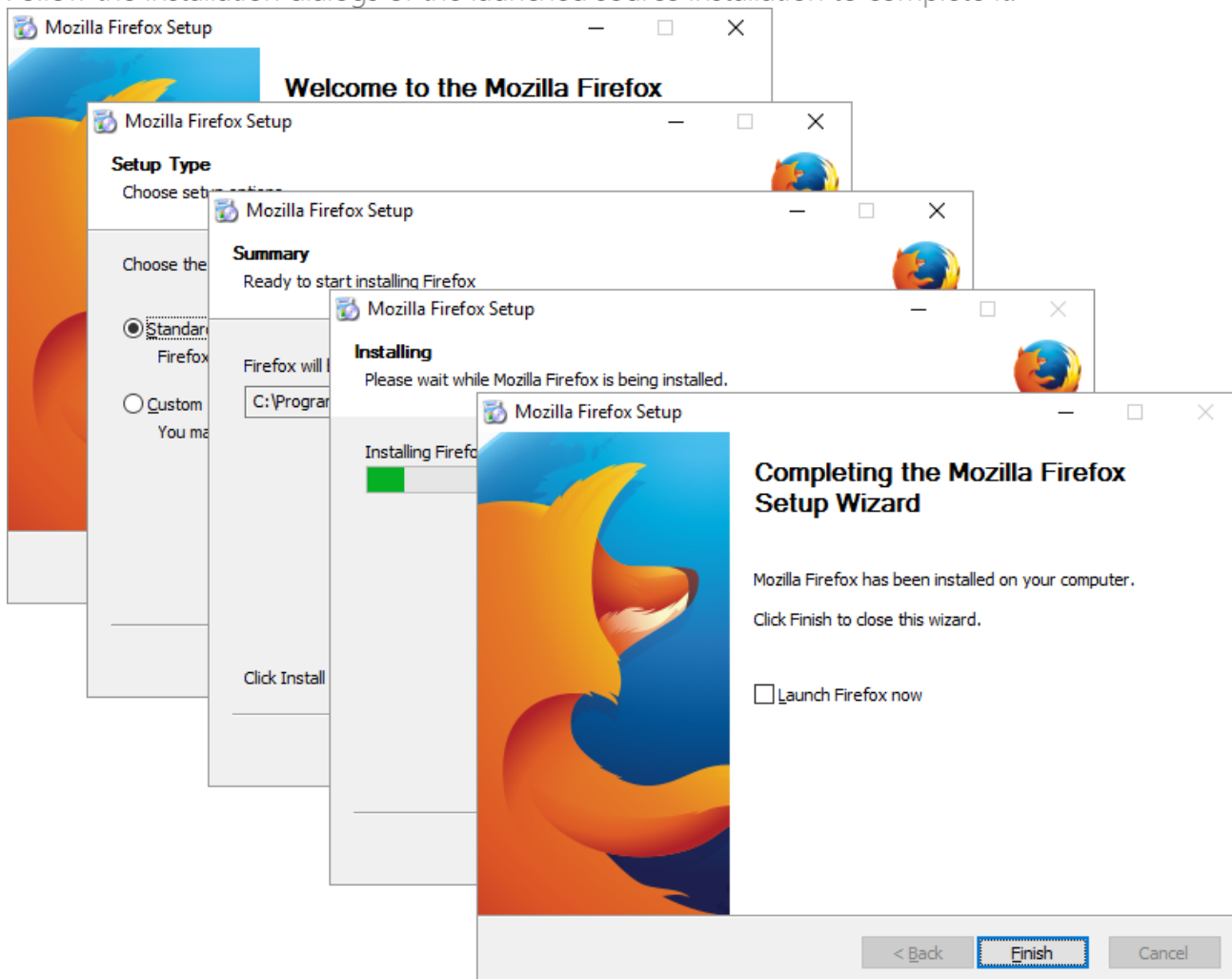
☐ I have finished the installation

< Back Next > Cancel

- Select the installer file (e.g. Firefox Setup.exe) and click Open.

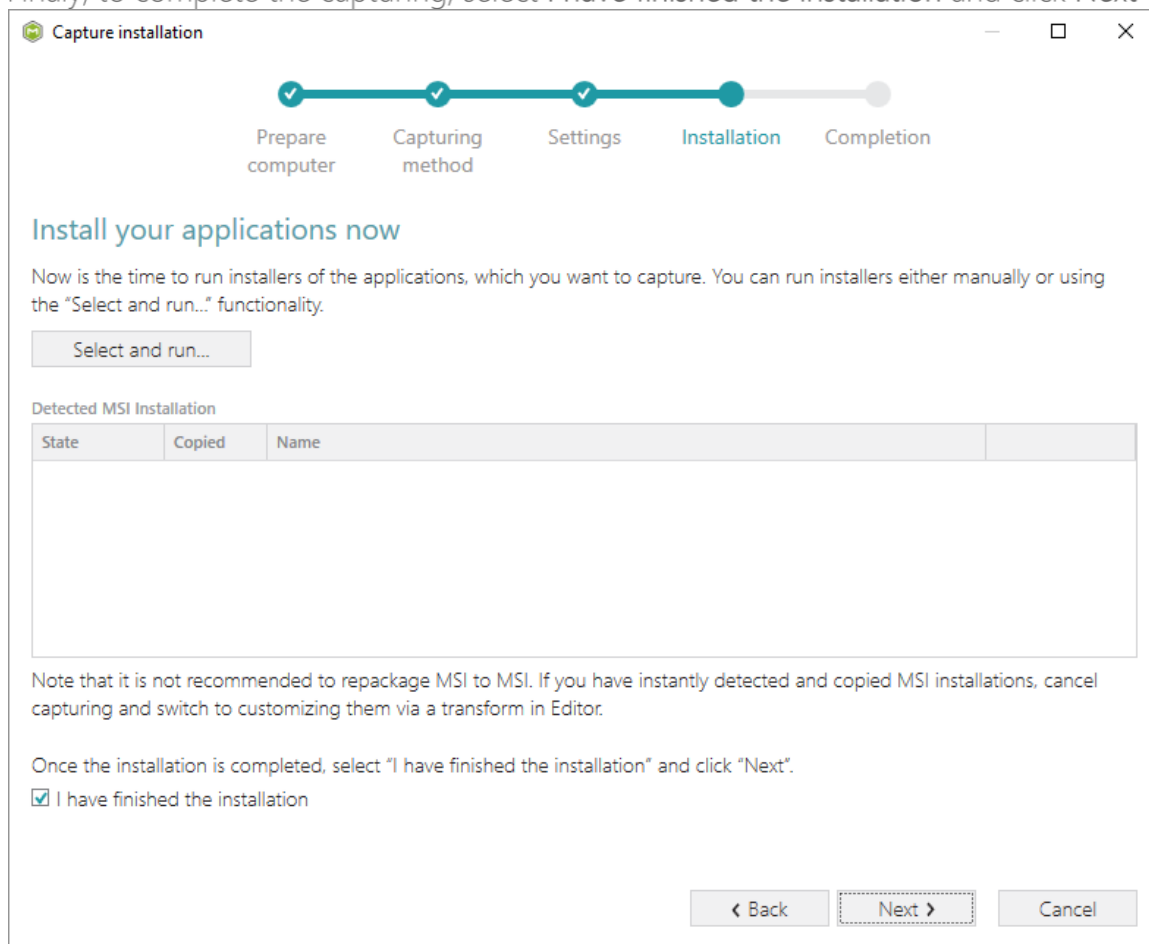


- Follow the installation dialogs of the launched source installation to complete it.

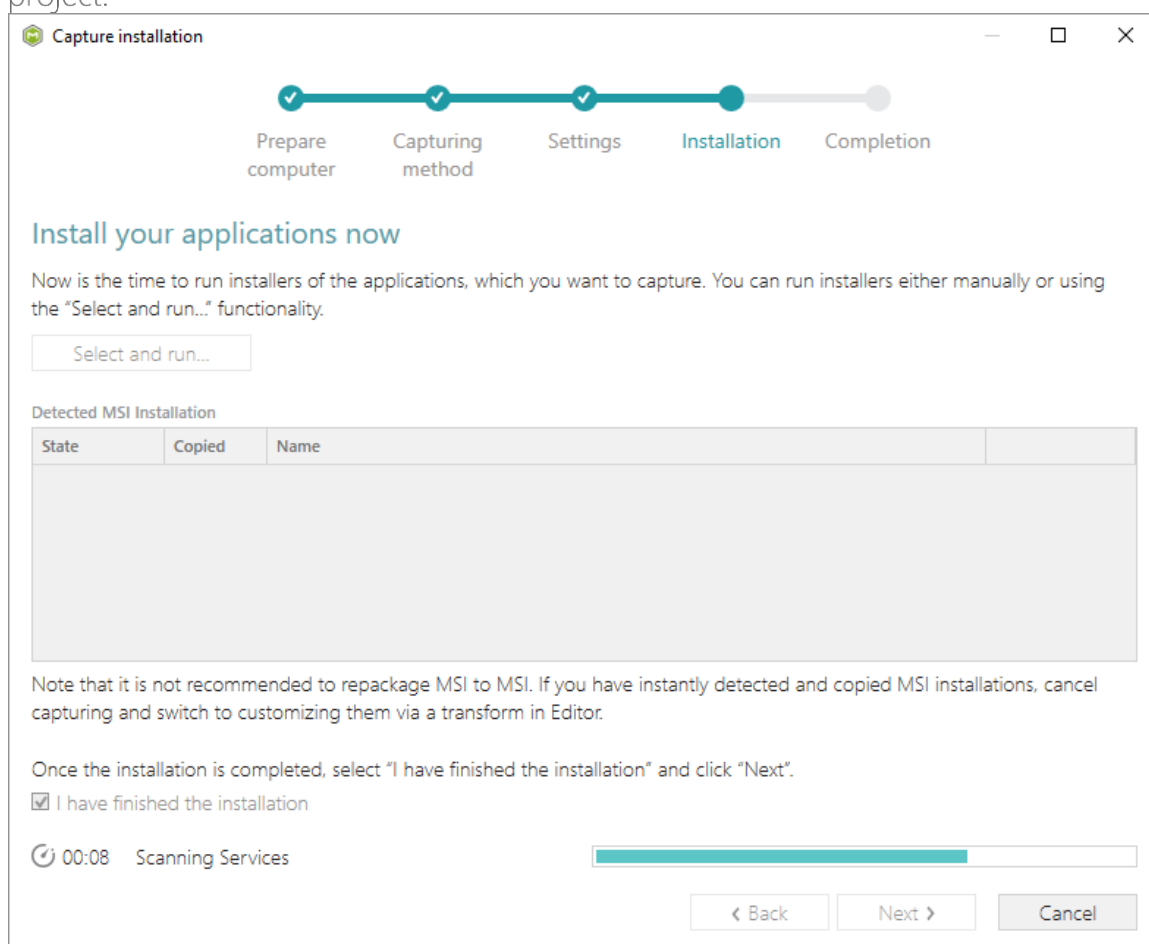


- Now you can make any additional changes to the file system and registry, which you want to capture along with source installation and include to the package. For instance, you can copy or edit configuration files, import REG file to the system registry, change file, folder permissions, or launch the installed application in order to capture the necessary application configurations, like disabling updates and so on.

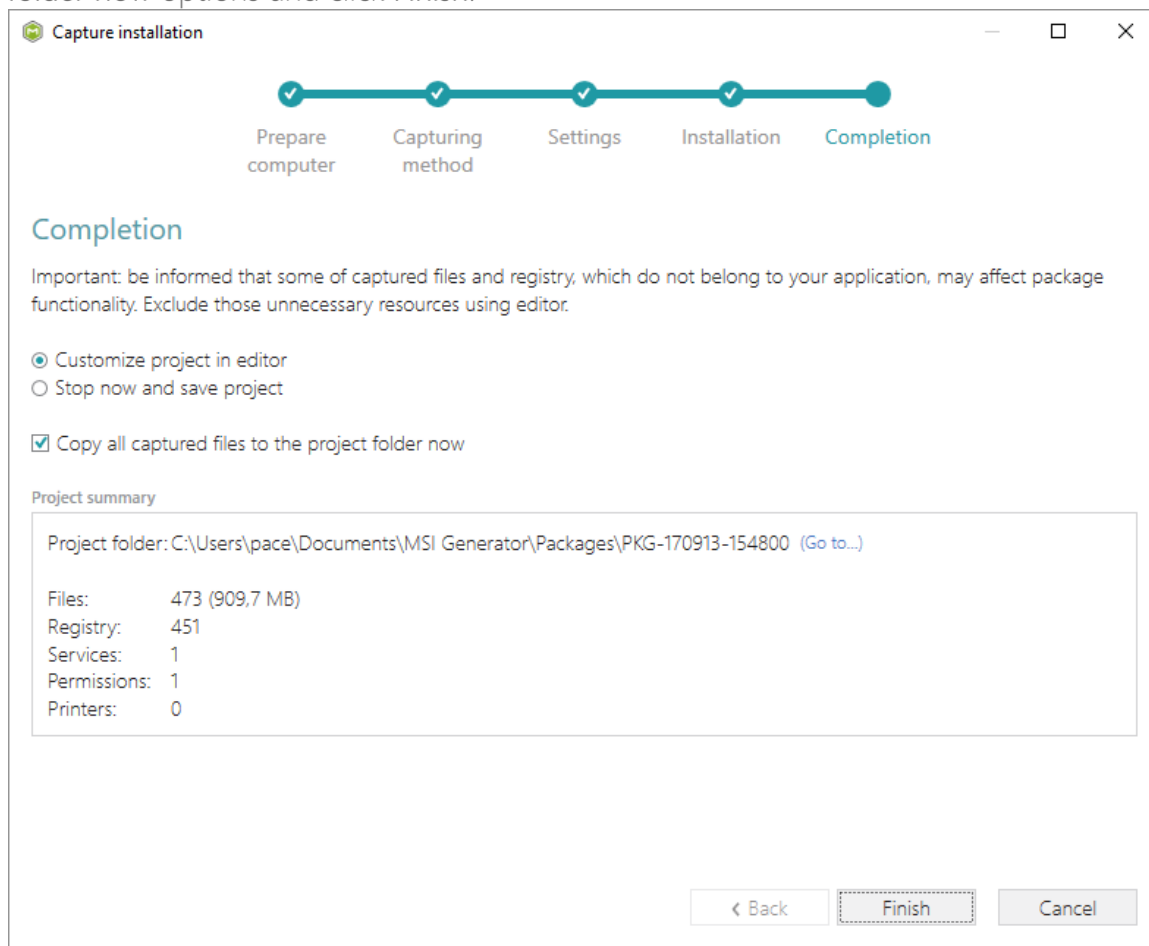
- Finally, to complete the capturing, select I have finished the installation and click Next >.



- Wait a little, while the capturing process is finishing, filtering captured data and creating the project.

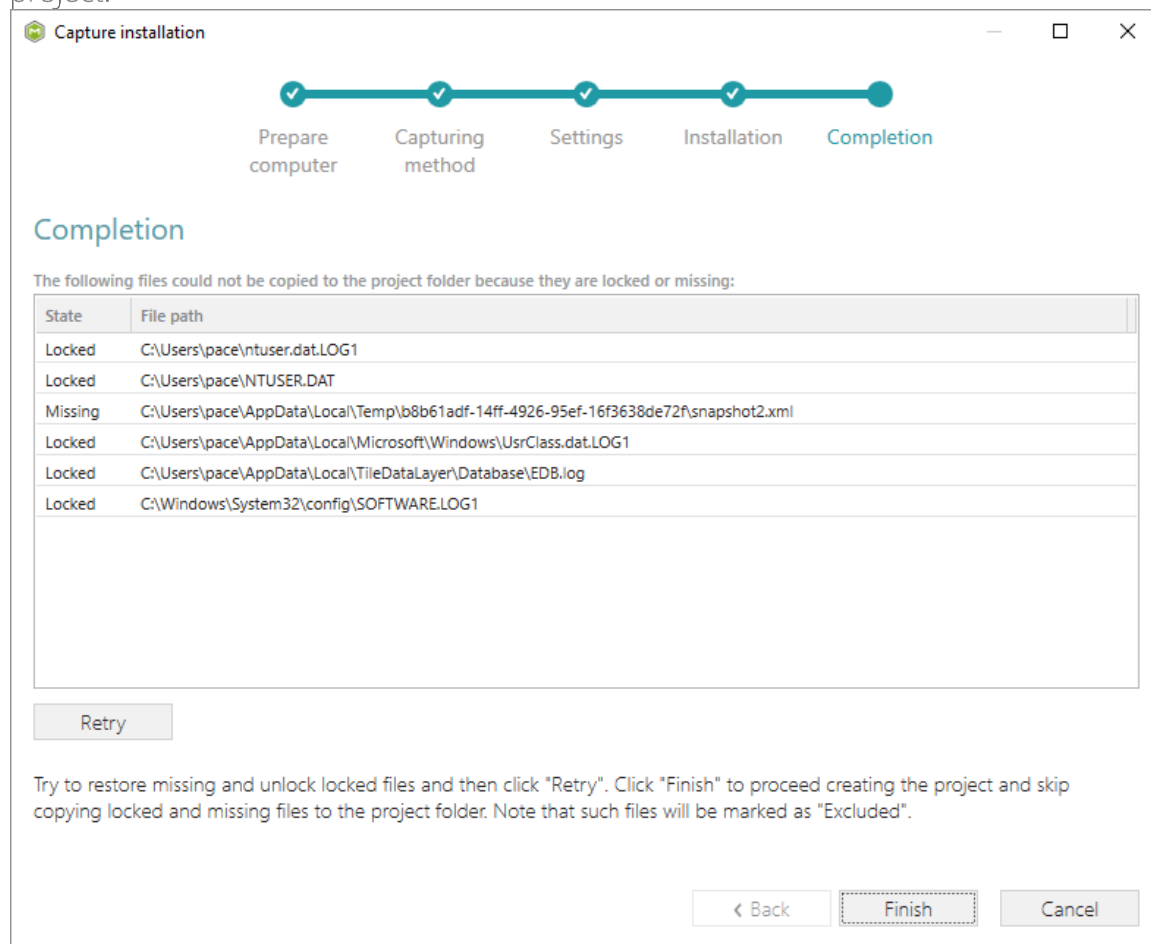


- Leave selected both the Customize project in editor and Copy all captured files to the project folder now options and click Finish.



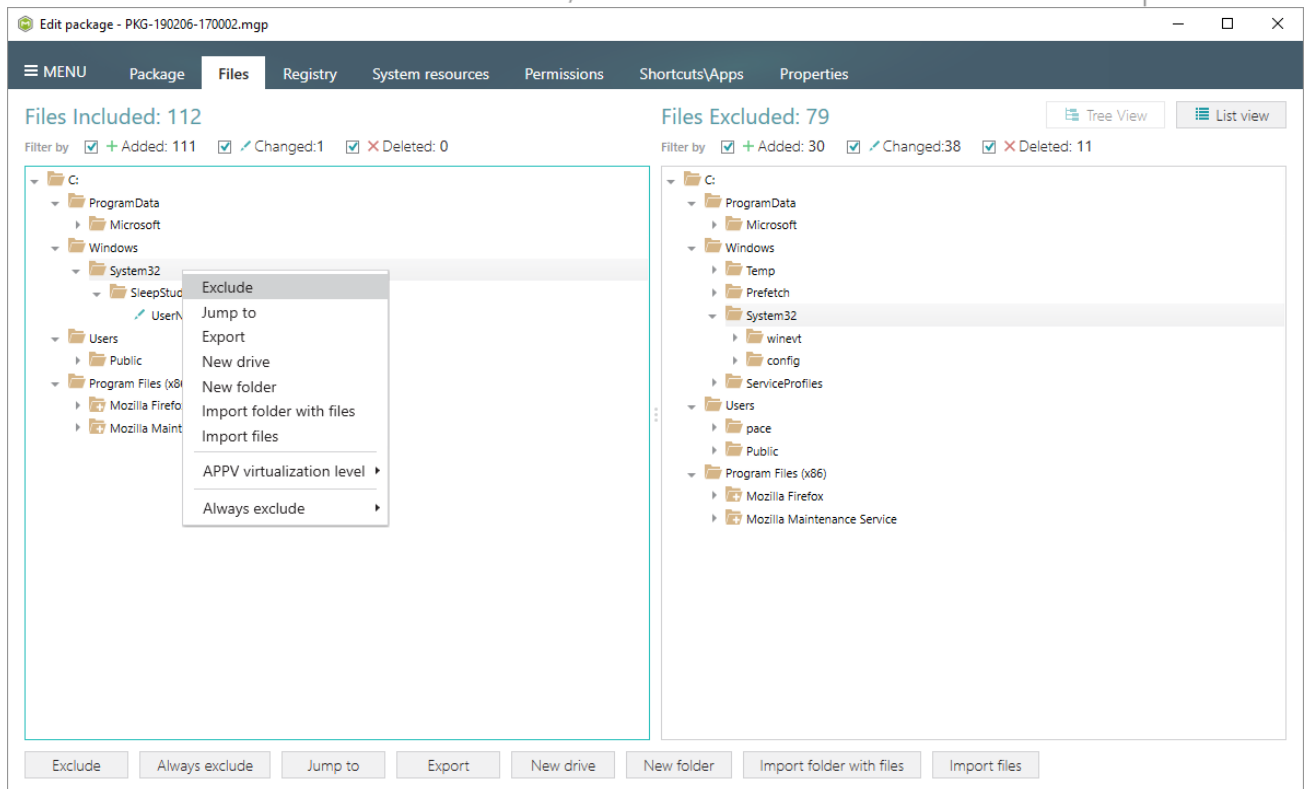
- If some of captured files are locked or missing and as result they could not be copied to the project folder, they will be displayed as illustrated below. Usually, the displayed files are system noise and do not refer to the captured application. Click Finish to continue with skipping locked and missing files. Note that such files will be automatically marked as 'Excluded' in your

project.

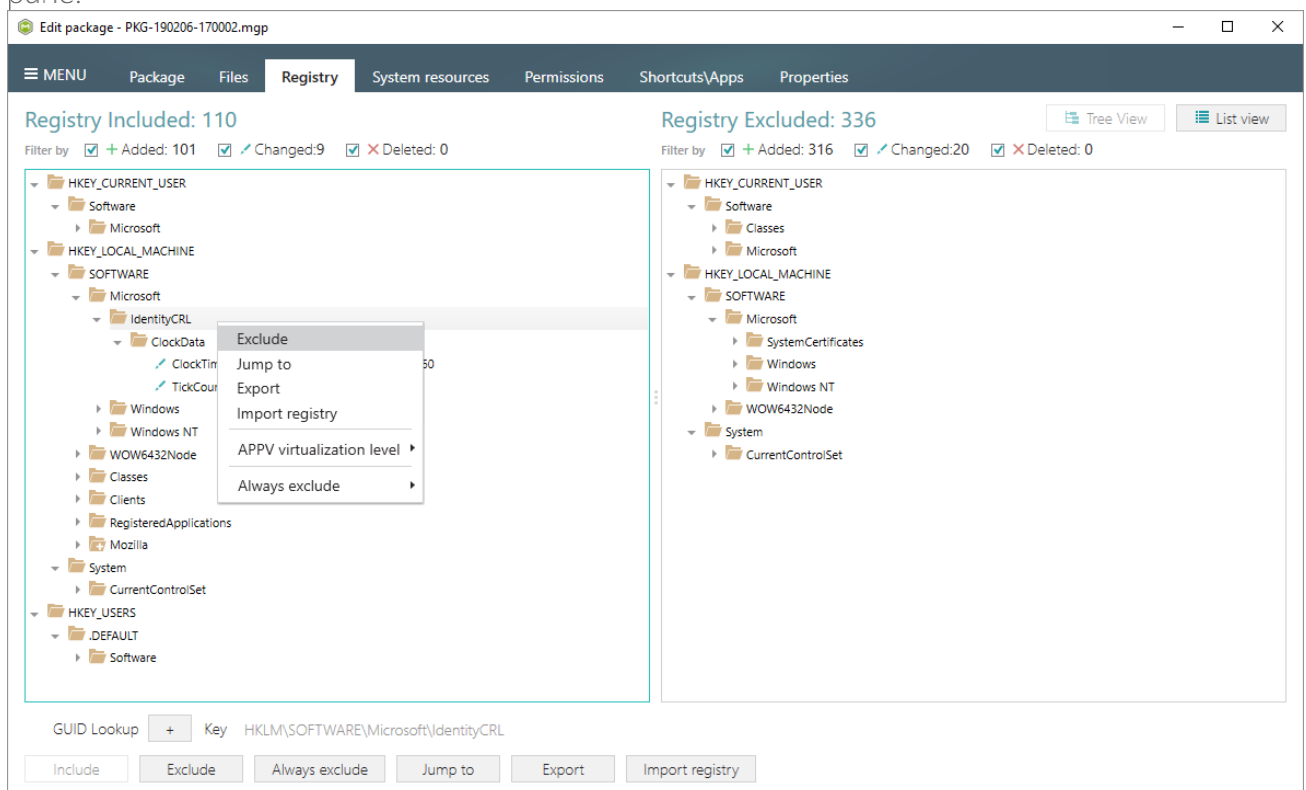


- Once the project is opened in the project editor, it is strongly recommended to review the Files, Registry, System resources, Permissions, and Shortcuts\Apps tabs and exclude the accidentally captured resources, which do not belong to the application. Such accidentally captured resources are also called system noise and it could be Windows Updates, Search indexing, Antivirus software and so on.

- In order to review and exclude unnecessary files or folders, go to the Files tab, and select Exclude from the context menu of an item, which is located in the left 'Files Included' pane.

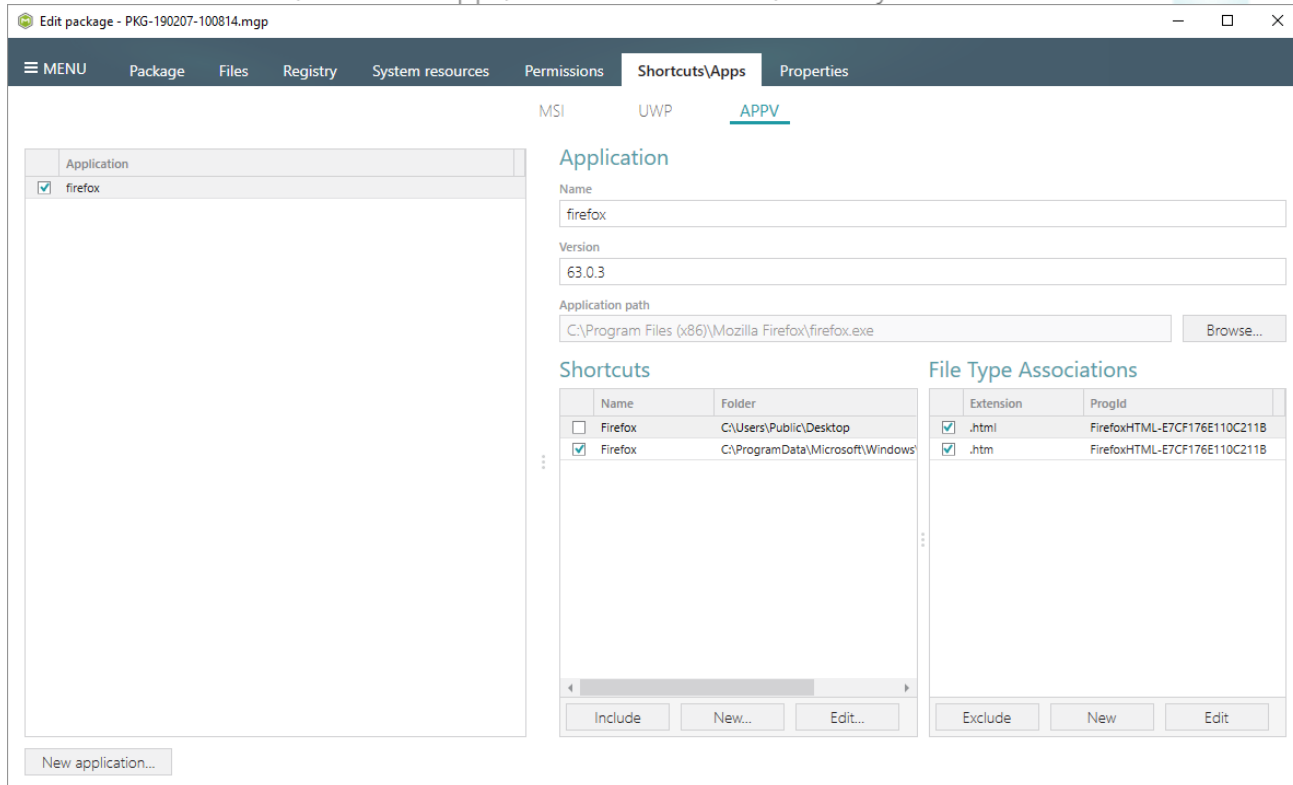


- In order to review and exclude unnecessary registry keys or values, go to the Registry tab, and select Exclude from the context menu of an item, which is located in the left 'Registry Included' pane.

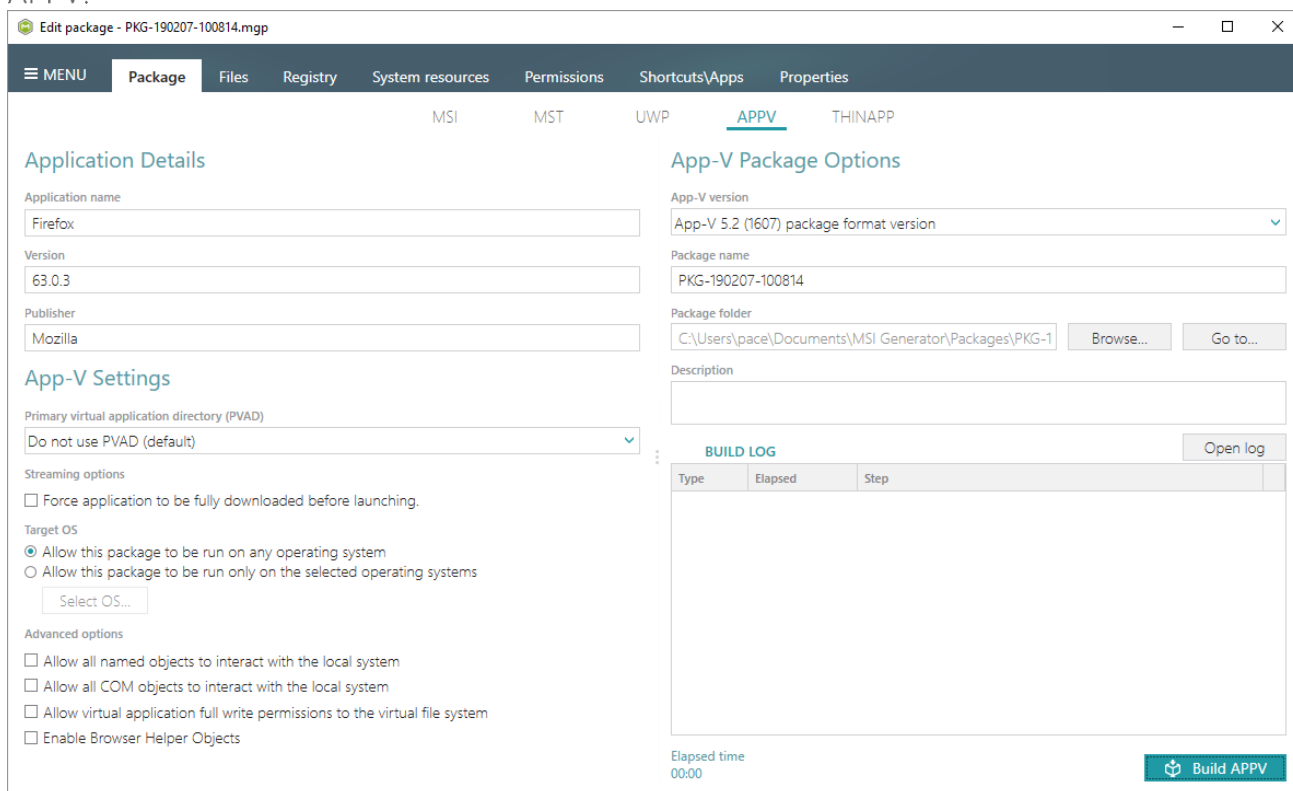


- In order to review and exclude the unnecessary APPV apps, their shortcuts and file type associations (FTA), go to the Shortcuts\Apps -> APPV tab, and untick the checkboxes, located

before the item name, for those apps, shortcuts and FTAs, which you want to exclude.



- For managing APPV Settings such as application details, target OS, PVAD, streamin settings, APPV version, virtualization level for the folders and registry keys, APPV apps, their shortcuts and file type associations (FTA), see section 3.8.8
- Finally, to generate an APPV package navigate to the Package -> APPV tab and click Build APPV.



- Once the package is built, click **Go to...**, located next to the Project folder field, to open the package-containing folder in Windows Explorer.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP **APPV** THINAPP

Application Details

Application name:

Version:

Publisher:

App-V Package Options

App-V version:

Package name:

Package folder: **Browse...** **Go to...**

Description:

App-V Settings

Primary virtual application directory (PVAD):

Streaming options

☐ Force application to be fully downloaded before launching.

Target OS

☒ Allow this package to be run on any operating system

☐ Allow this package to be run only on the selected operating systems

Advanced options

☐ Allow all named objects to interact with the local system

☐ Allow all COM objects to interact with the local system

☐ Allow virtual application full write permissions to the virtual file system

☐ Enable Browser Helper Objects

BUILD LOG

Type	Elapsed	Step
■	00:00:30	Operation was completed successfully
■	00:00:08	Saving package
■	00:00:08	Processing software clients
■	00:00:08	Processing environment variables
■	00:00:08	Processing URL protocols
■	00:00:08	Processing application capabilities
■	00:00:08	Processing FTAs
■	00:00:08	Processing browser plugins
■	00:00:07	Processing COM objects
■	00:00:07	Processing services
■	00:00:07	Processing registry

Elapsed time: 00:00:30

3.6 Create THINAPP

NOTE For building THINAPP packages, ensure that your system contains VMware ThinApp (5.0.0/5.0.1/5.1.0/5.1.1/5.2.0) installed.

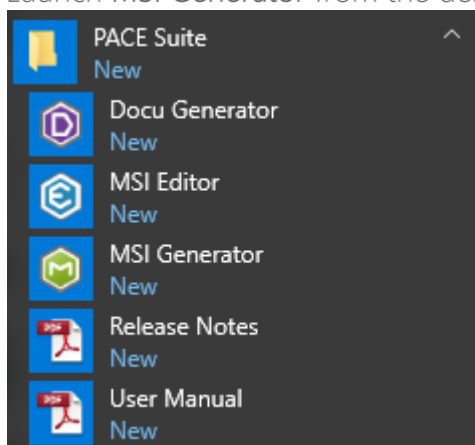
Choose a scenario that better suits your needs:

- **Create THINAPP from Scratch**, described in section 3.6.1
Create a new empty project in MSI Generator, add folders, files, registry entries, select entry points and then generate the THINAPP package from this project.
- **Repackage Installation to THINAPP**, described in section 3.6.2
Repackage your source installation (EXE, MSI, VBS, CMD, etc.) into THINAPP package using MSI Generator.

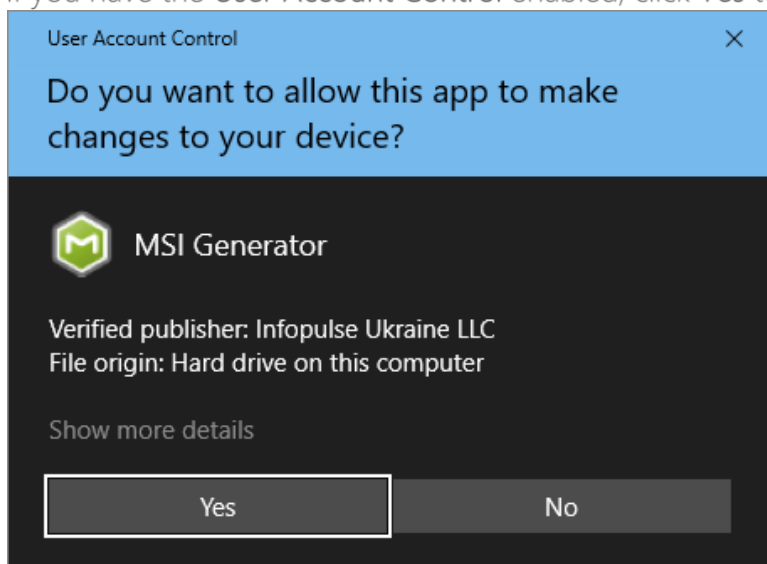
3.6.1 Create THINAPP from Scratch

Create a new empty project in MSI Generator, add folders, files, registry entries, select entry points and then generate the THINAPP package from this project.

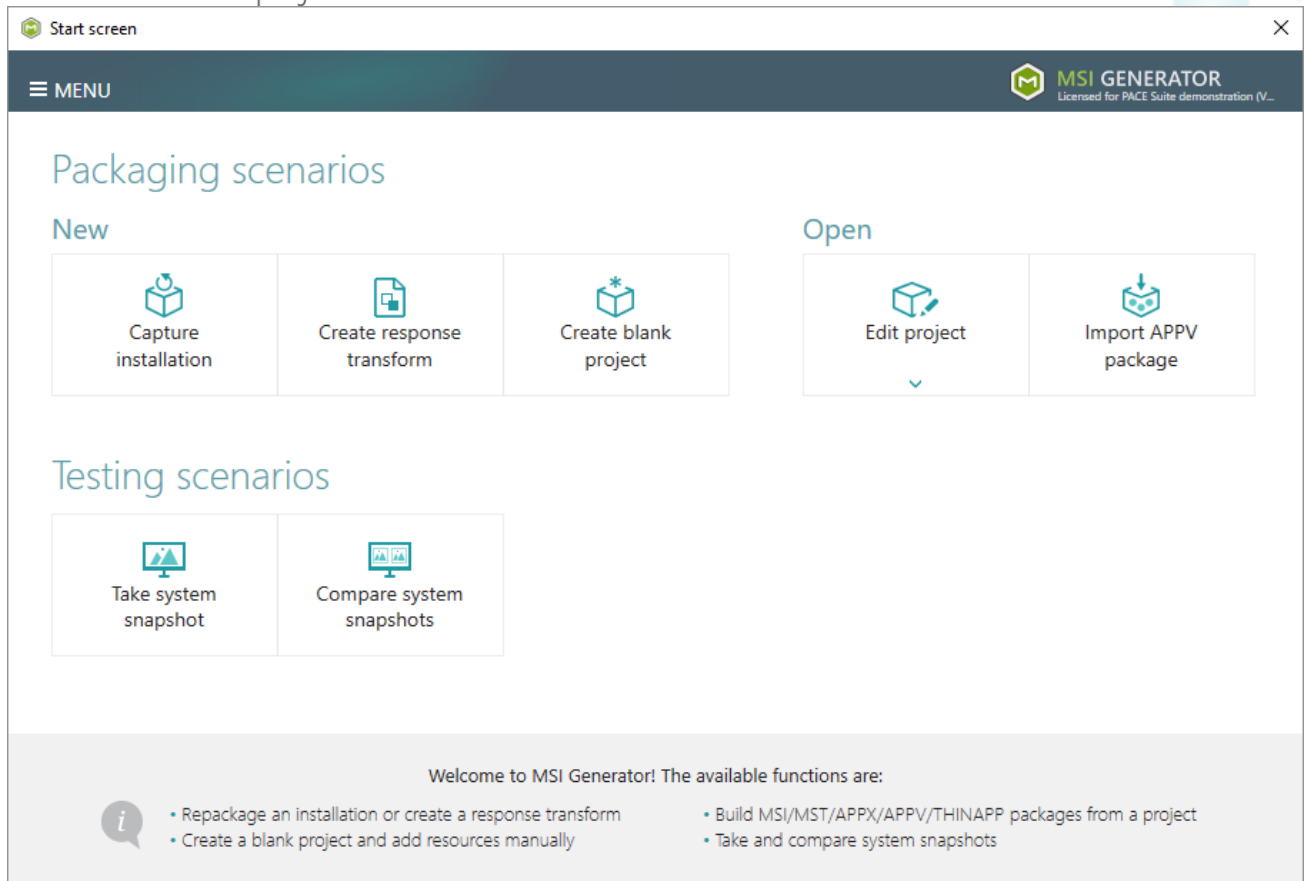
- Launch MSI Generator from the desktop of the start menu shortcut.



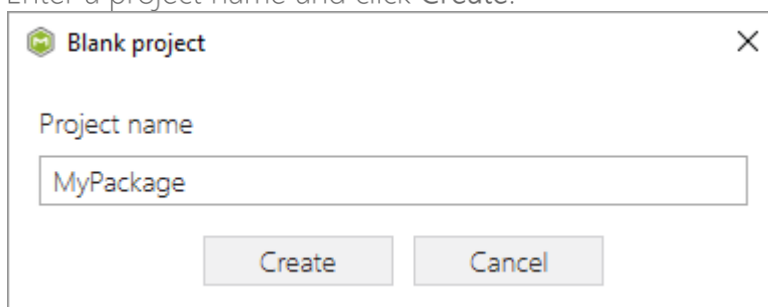
- If you have the User Account Control enabled, click Yes to launch the application.



- Click Create blank project.

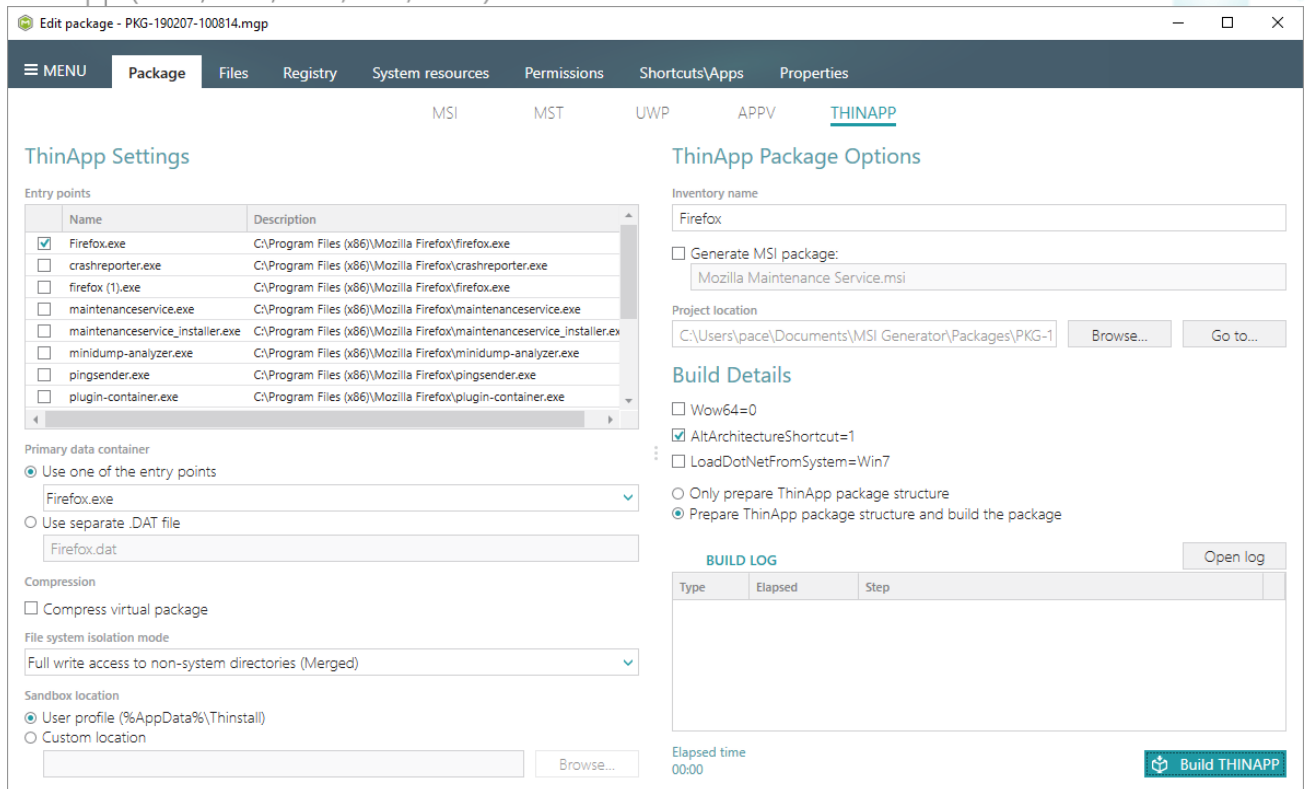


- Enter a project name and click Create.

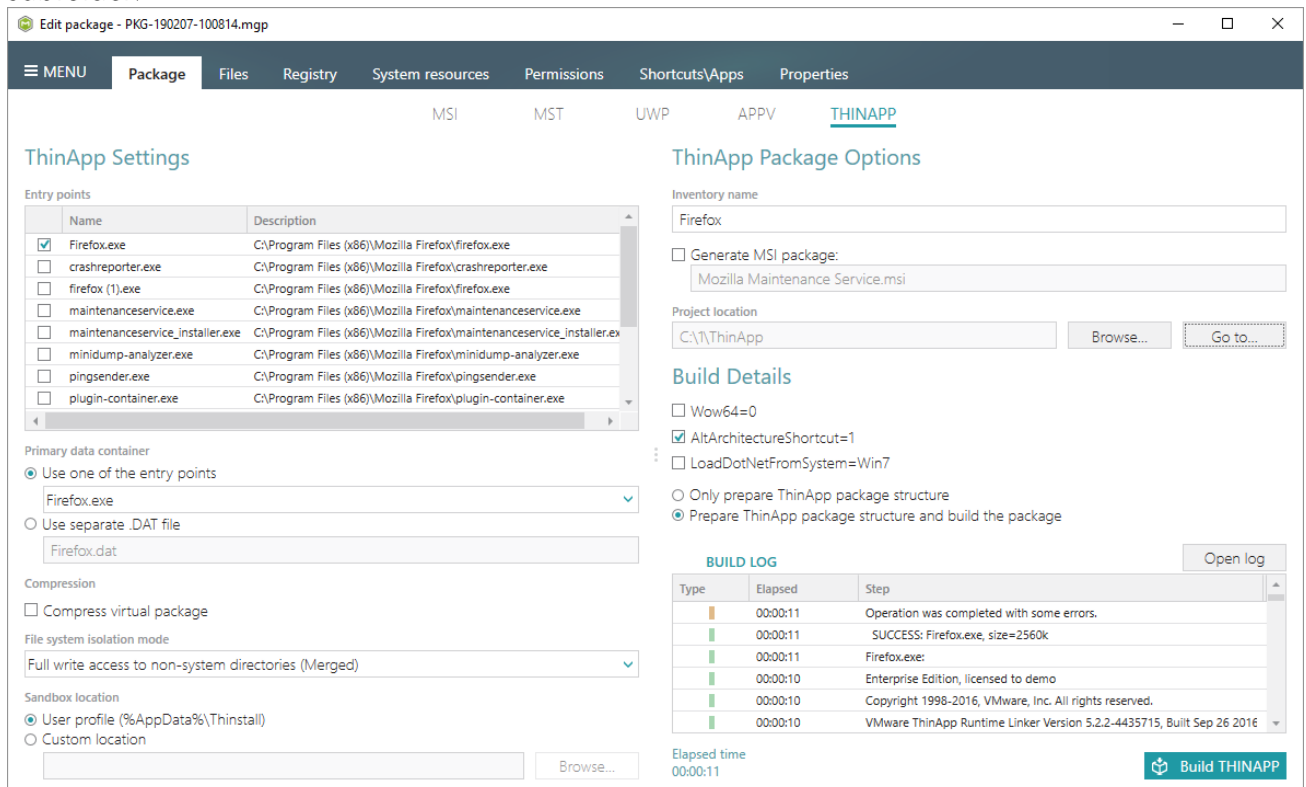


- For managing project resources such as files, folders, and registry refer to the respective section of this document:
 - Regarding File and Folders see section 3.8.2
 - Regarding Registry see section 3.8.3
- For managing THINAPP Settings such as entry points, primary data container, compression, file system isolation mode, sandbox location and the like, see section 3.8.9
- Finally, to generate a THINAPP package navigate to the **Package** -> **THINAPP** tab and click **Build THINAPP**. NOTE For building THINAPP packages, PACE Suite requires the VMware

ThinApp (5.0.0/5.0.1/5.1.0/5.1.1/5.2.0) installed and activated with the valid license.



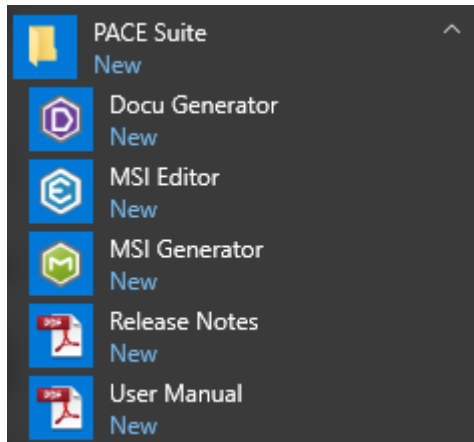
- Once the package is built, click Go to..., located next to the Project location field, to open the package-containing folder in Windows Explorer. Find the generated package in the bin subfolder.



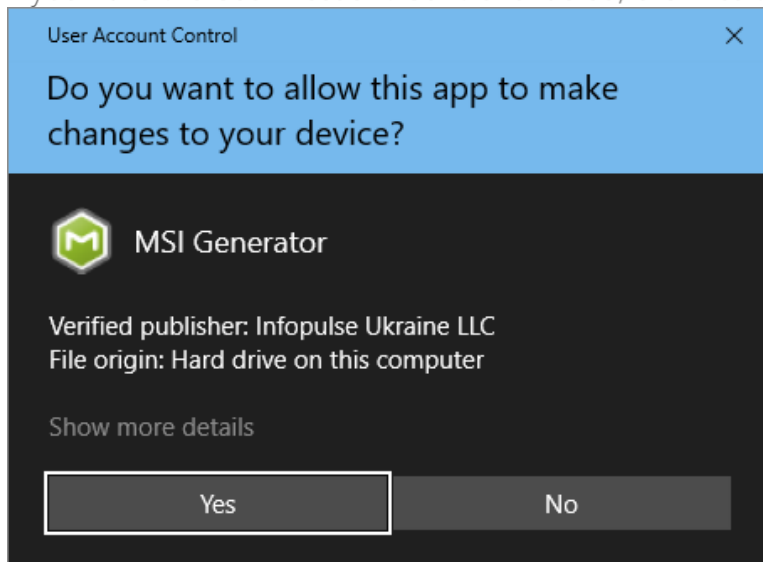
3.6.2 Repackage Installation to THINAPP

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

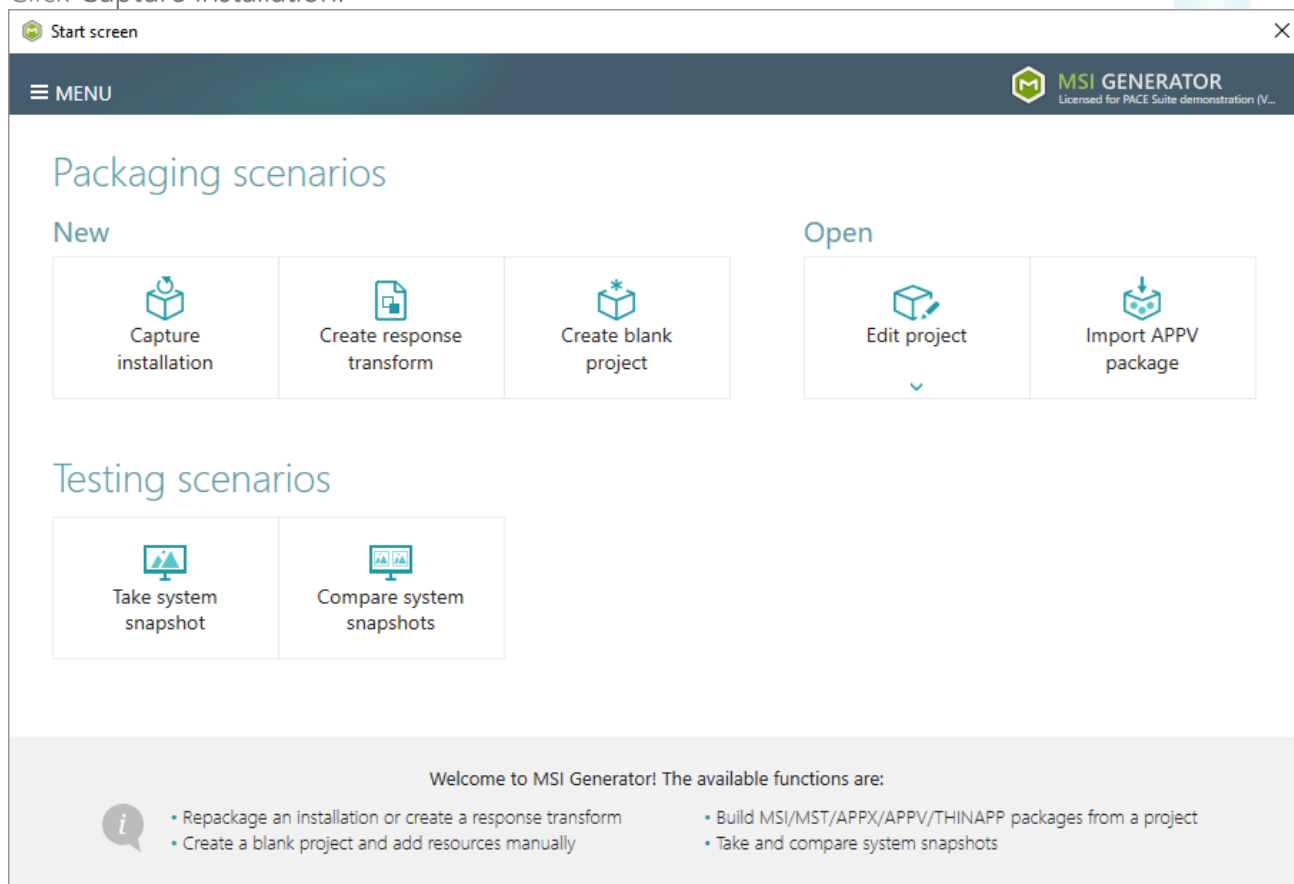
- Launch MSI Generator from the desktop of the start menu shortcut.



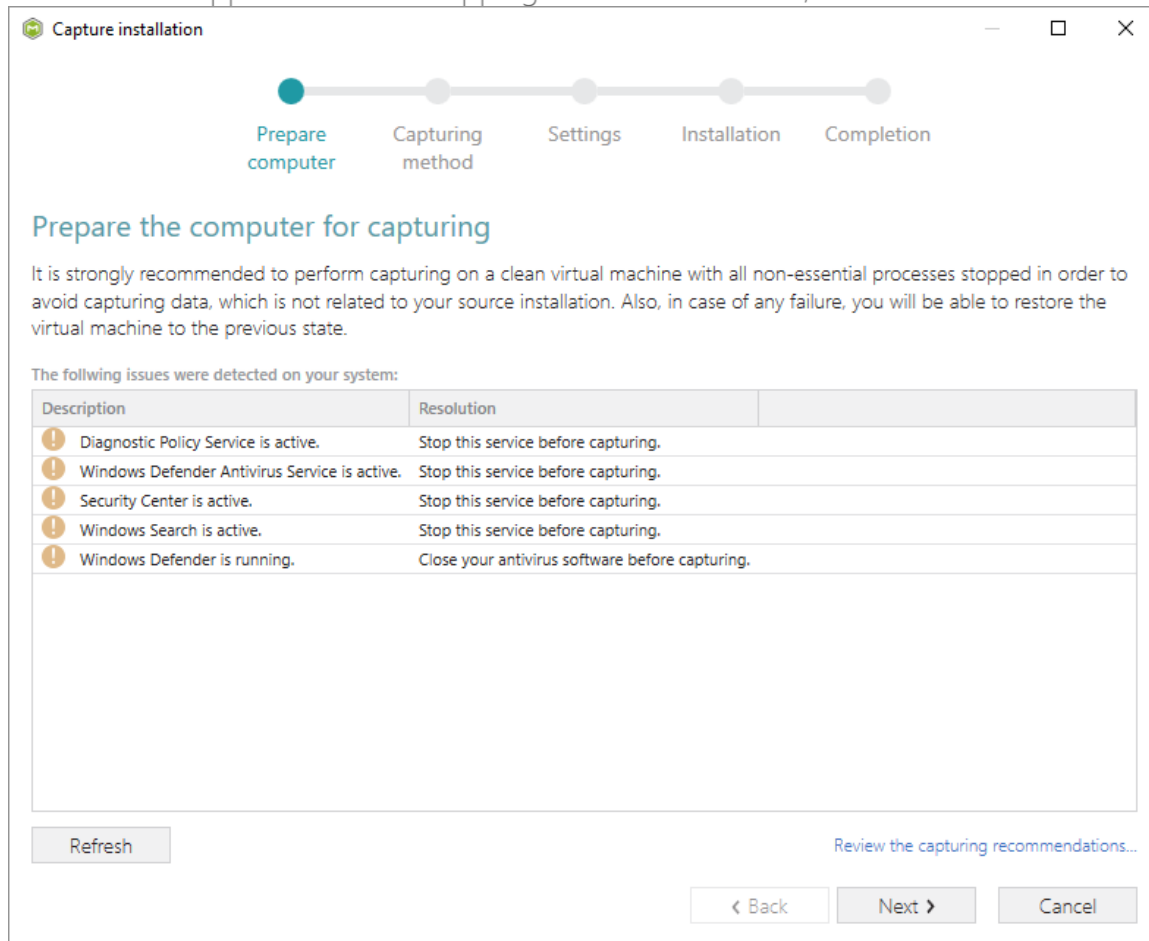
- If you have the User Account Control enabled, click Yes to launch the application.



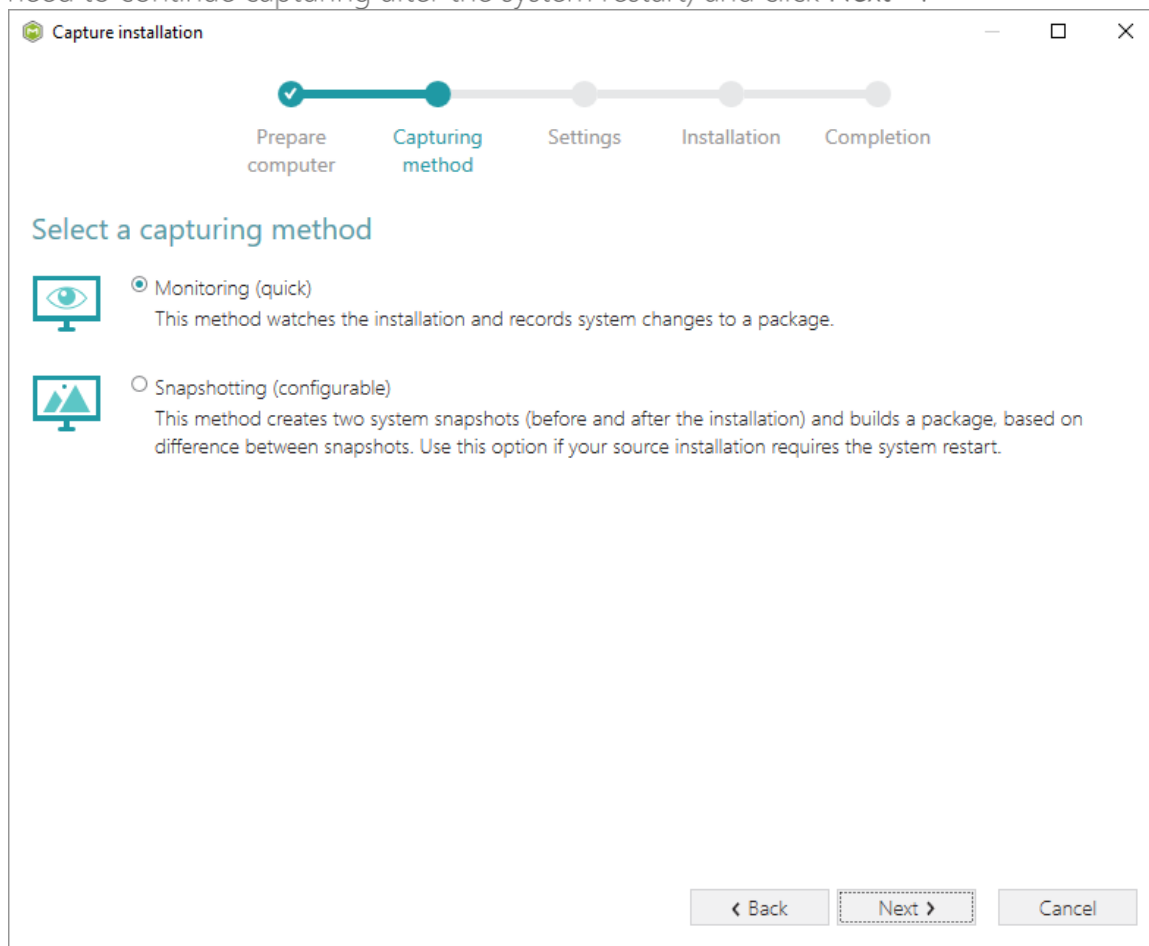
- Click Capture installation.



- Review the issues, which were detected on your system, and try to resolve them by closing the non-essential applications and stopping services. Thereafter, click Next >.



- Select the **Monitoring** method for the quicker capturing (or use the **Snapshotting** one if you need to continue capturing after the system restart) and click **Next >**.



- Review and update package name. If needed, disable unnecessary exclusion filters and scanning areas. Click **Next >** to start the capturing.

The screenshot shows the 'Capture installation' window with the 'Settings' tab selected. The progress bar at the top indicates the following steps: Prepare computer (completed), Capturing method (completed), Settings (current), Installation, and Completion. The 'Package name' field contains 'PKG-170912-154800'. Under 'Exclusion filters', the text 'Apply the following filters to the captured resources:' is followed by three checked items: 'AllWindowsOS', 'Win7', and 'Win8-10'. Under 'Scanning areas', the text 'Application objects:' is followed by three checked items: 'Permissions', 'Services', and 'Printers'. At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

Capture installation

Prepare computer Capturing method **Settings** Installation Completion

Settings

Package name
PKG-170912-154800

Exclusion filters

Apply the following filters to the captured resources:

- ☒ AllWindowsOS
- ☒ Win7
- ☒ Win8-10

Scanning areas

Application objects:

- ☒ Permissions
- ☒ Services
- ☒ Printers

< Back Next > Cancel

- Click **Select and run...** to choose source installation for repackaging.

The screenshot shows the 'Capture installation' window with the 'Installation' tab selected. The progress bar at the top indicates the following steps: Prepare computer (completed), Capturing method (completed), Settings (completed), Installation (current), and Completion. The main heading is 'Install your applications now'. Below it, a text block states: 'Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.' Below this text is a button labeled 'Select and run...'. Under the heading 'Detected MSI Installation', there is a table with three columns: 'State', 'Copied', and 'Name'. The table is currently empty. Below the table, a note states: 'Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.' Below the note, another text block states: 'Once the installation is completed, select "I have finished the installation" and click "Next".' Below this text is a checkbox labeled 'I have finished the installation'. At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

Capture installation

Prepare computer Capturing method Settings **Installation** Completion

Install your applications now

Now is the time to run installers of the applications, which you want to capture. You can run installers either manually or using the "Select and run..." functionality.

Select and run...

Detected MSI Installation

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

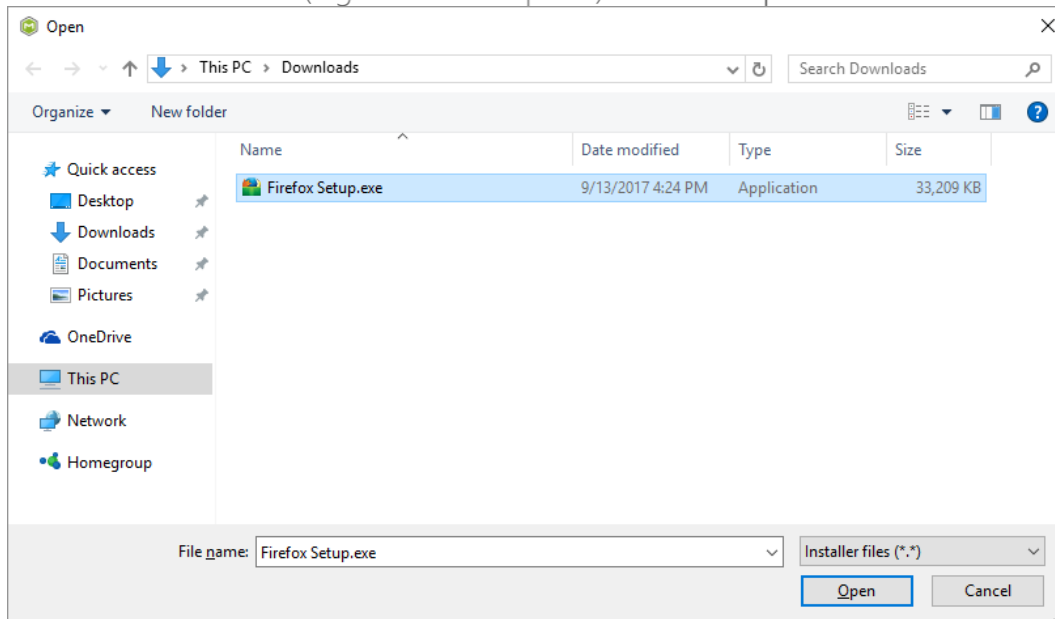
Note that it is not recommended to repackage MSI to MSI. If you have instantly detected and copied MSI installations, cancel capturing and switch to customizing them via a transform in Editor.

Once the installation is completed, select "I have finished the installation" and click "Next".

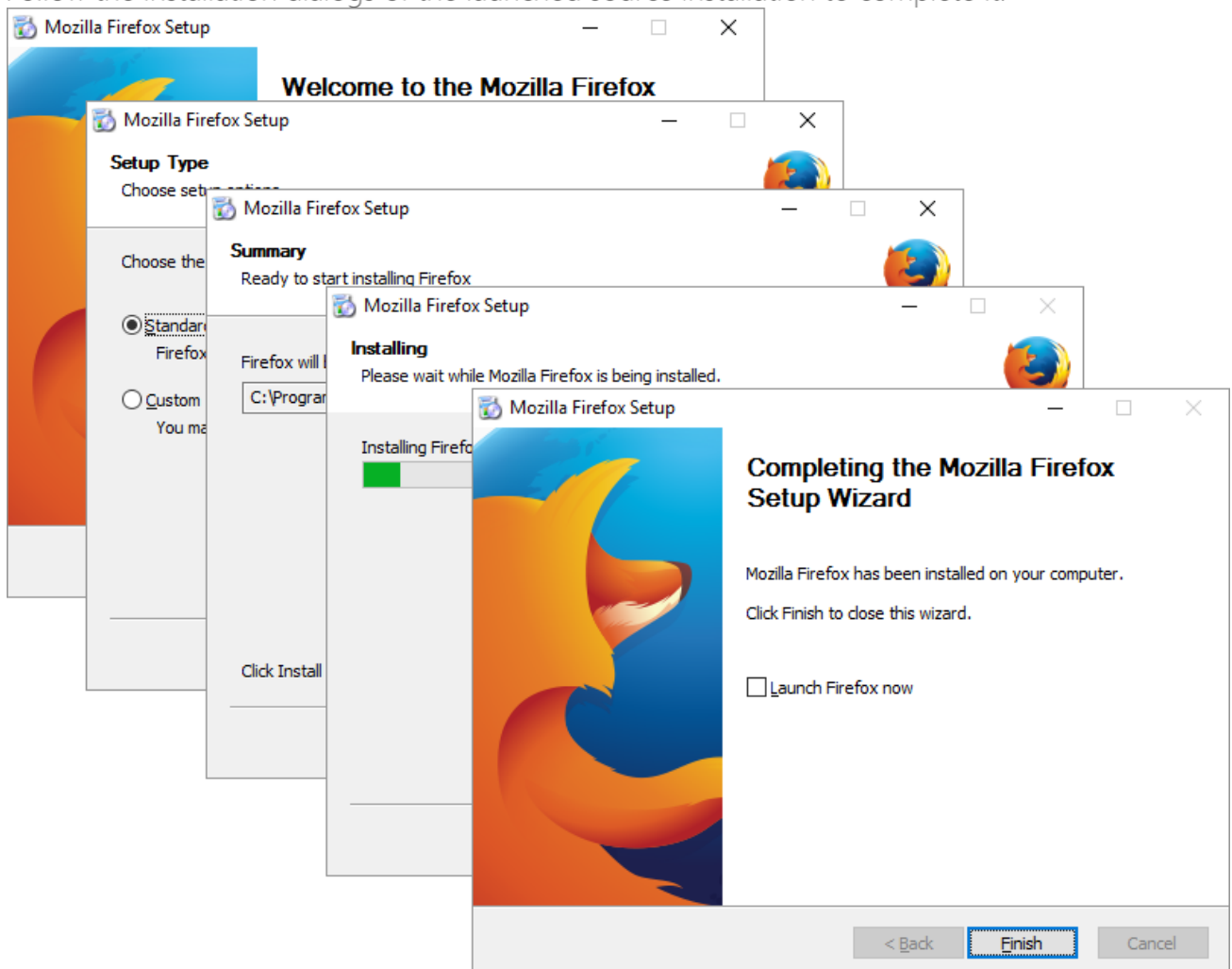
☐ I have finished the installation

< Back Next > Cancel

- Select the installer file (e.g. Firefox Setup.exe) and click Open.

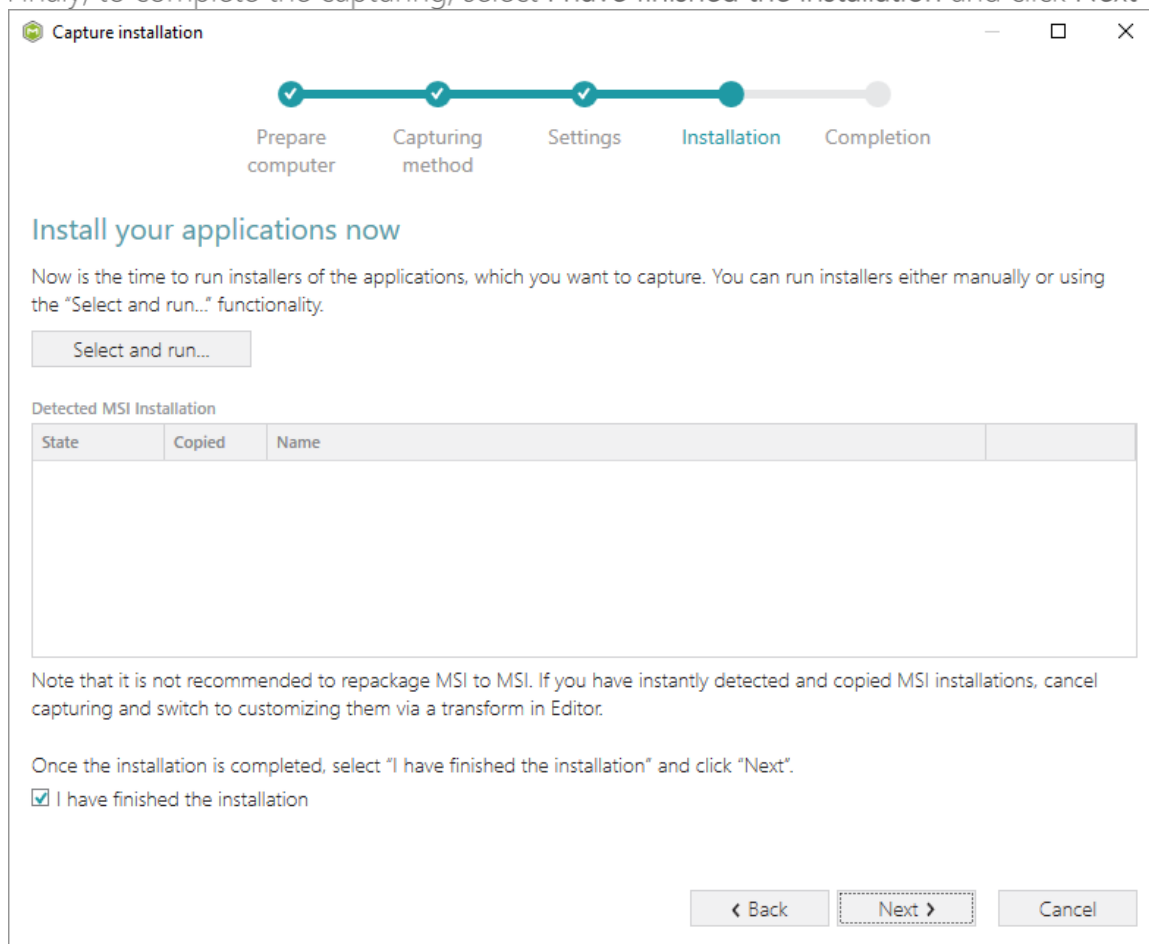


- Follow the installation dialogs of the launched source installation to complete it.

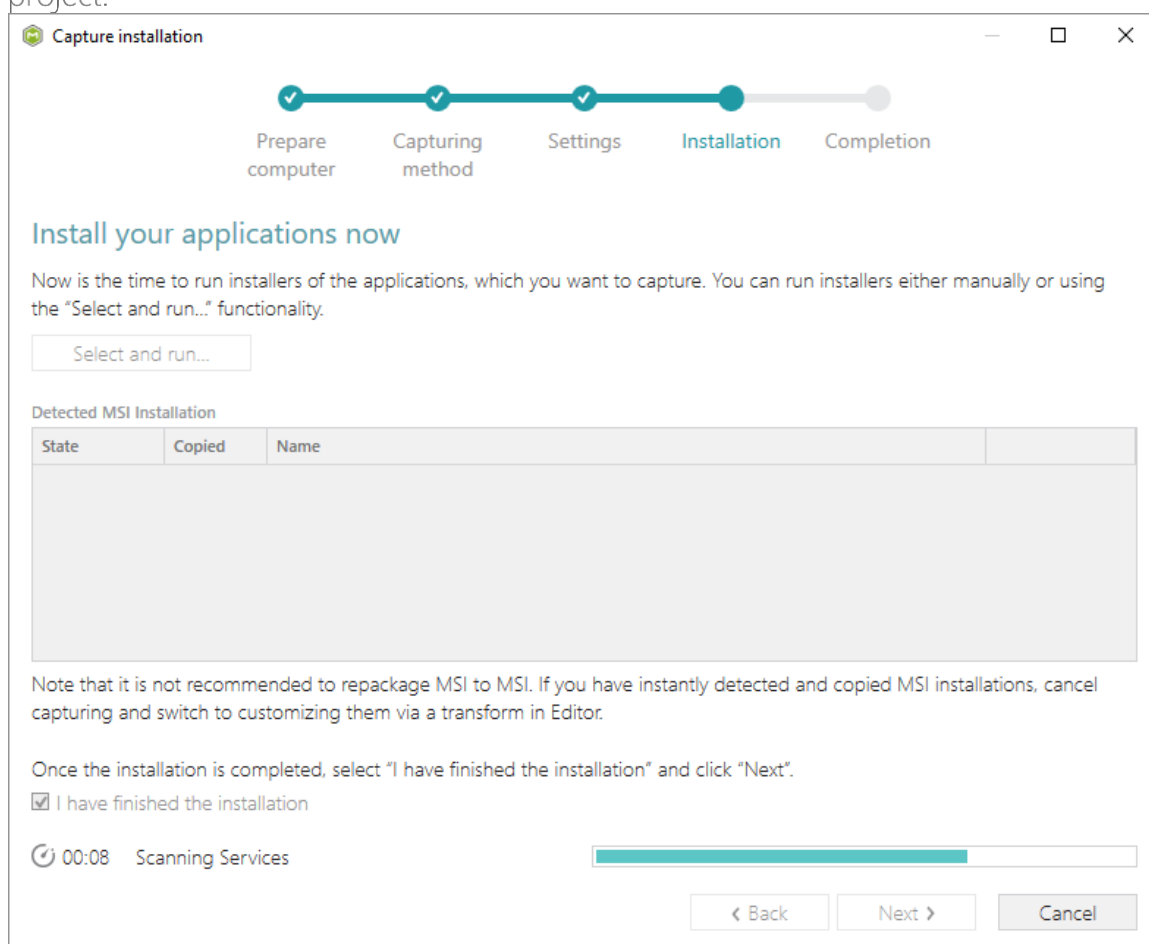


- Now you can make any additional changes to the file system and registry, which you want to capture along with source installation and include to the package. For instance, you can copy or edit configuration files, import REG file to the system registry, change file, folder permissions, or launch the installed application in order to capture the necessary application configurations, like disabling updates and so on.

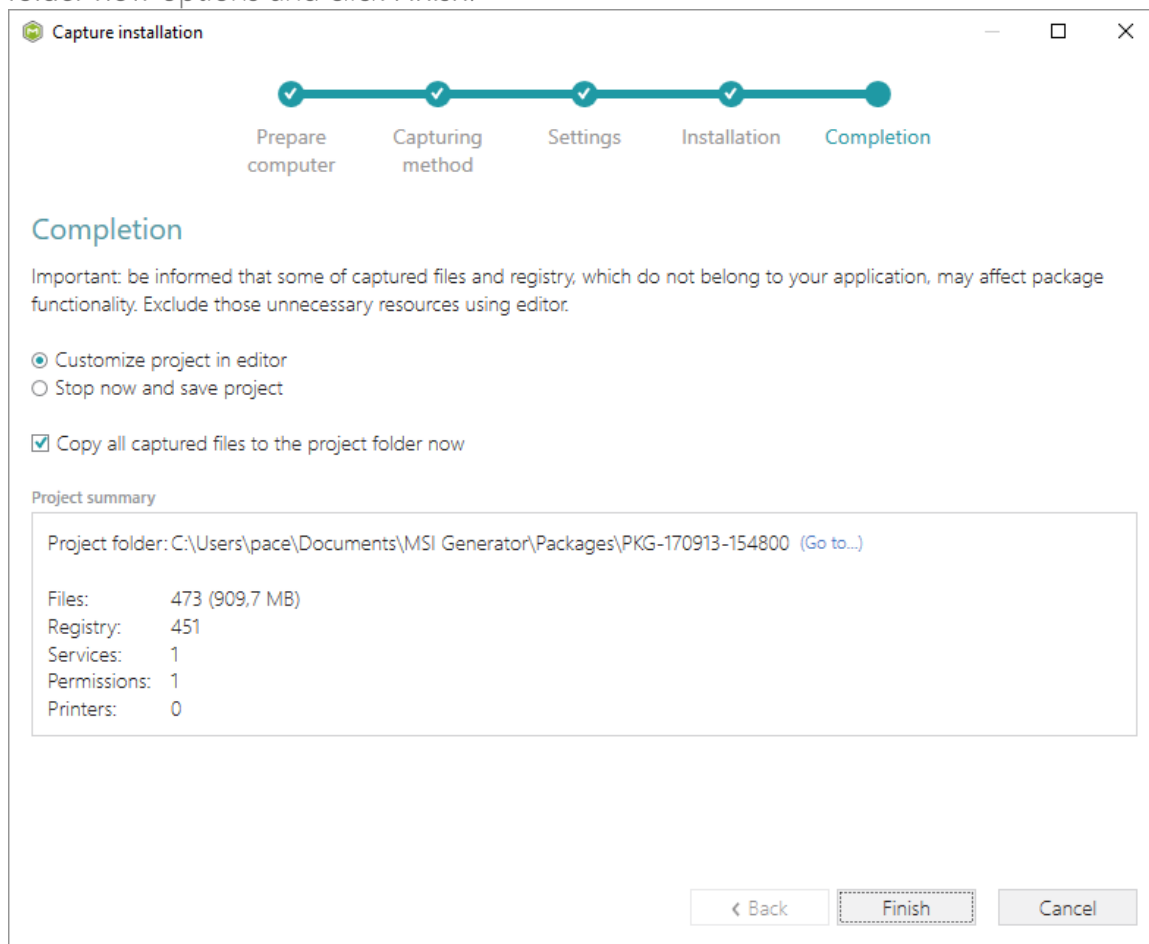
- Finally, to complete the capturing, select I have finished the installation and click Next >.



- Wait a little, while the capturing process is finishing, filtering captured data and creating the project.

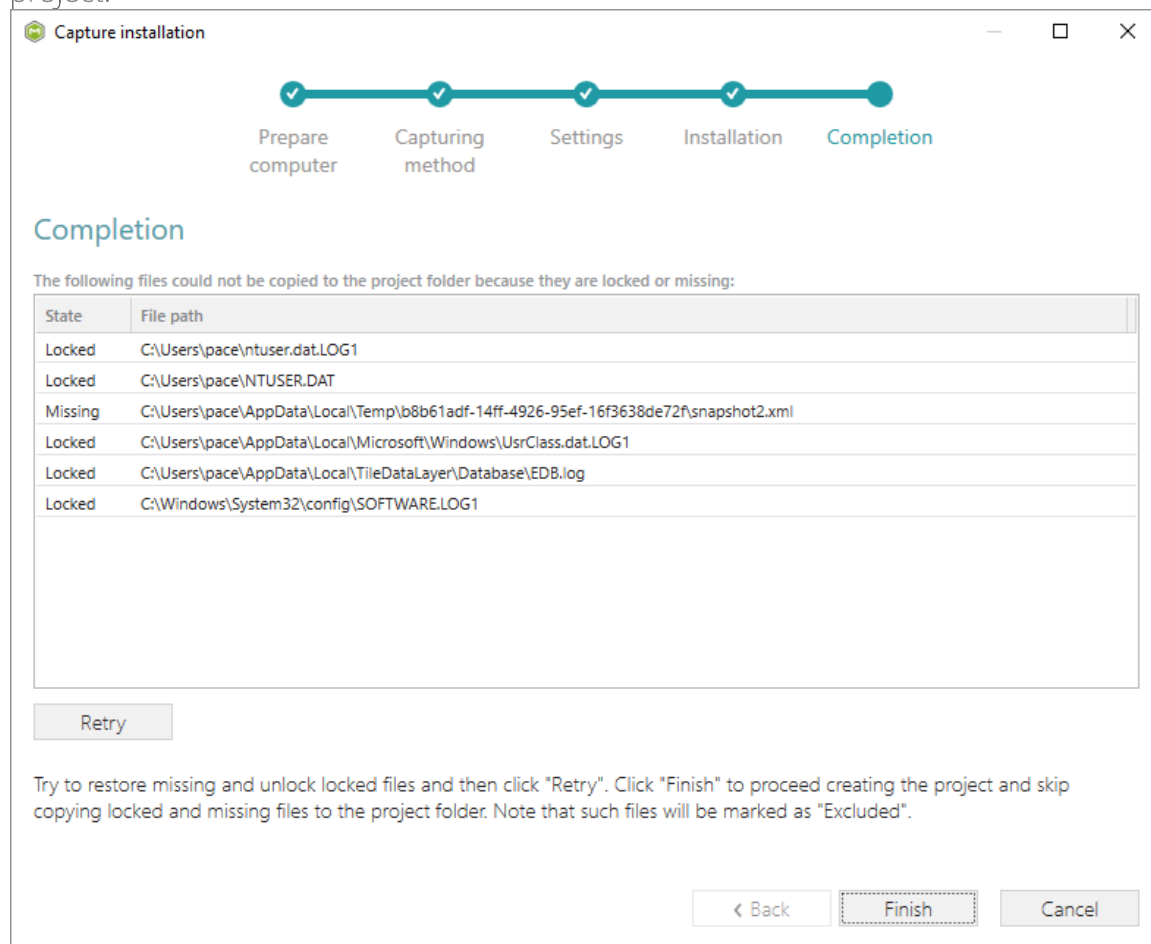


- Leave selected both the Customize project in editor and Copy all captured files to the project folder now options and click Finish.



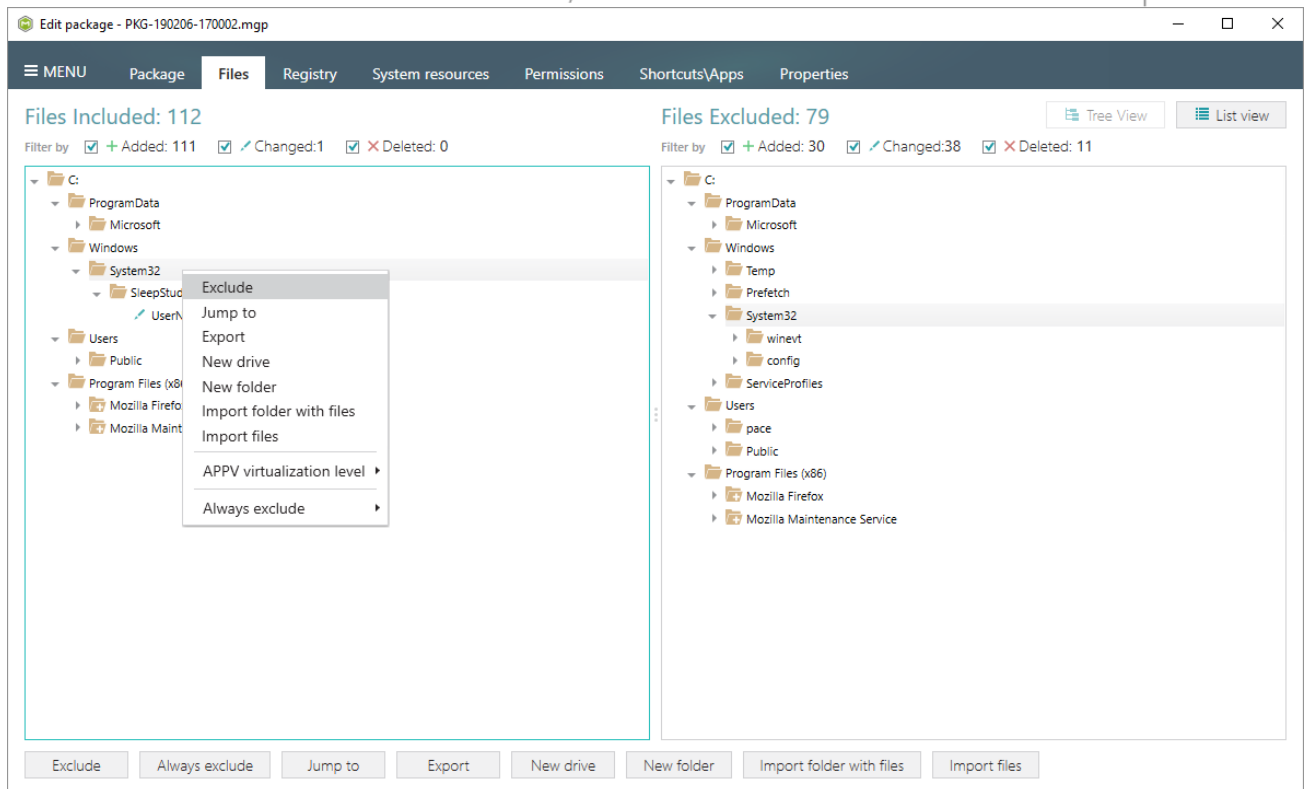
- If some of captured files are locked or missing and as result they could not be copied to the project folder, they will be displayed as illustrated below. Usually, the displayed files are system noise and do not refer to the captured application. Click **Finish** to continue with skipping locked and missing files. Note that such files will be automatically marked as 'Excluded' in your

project.

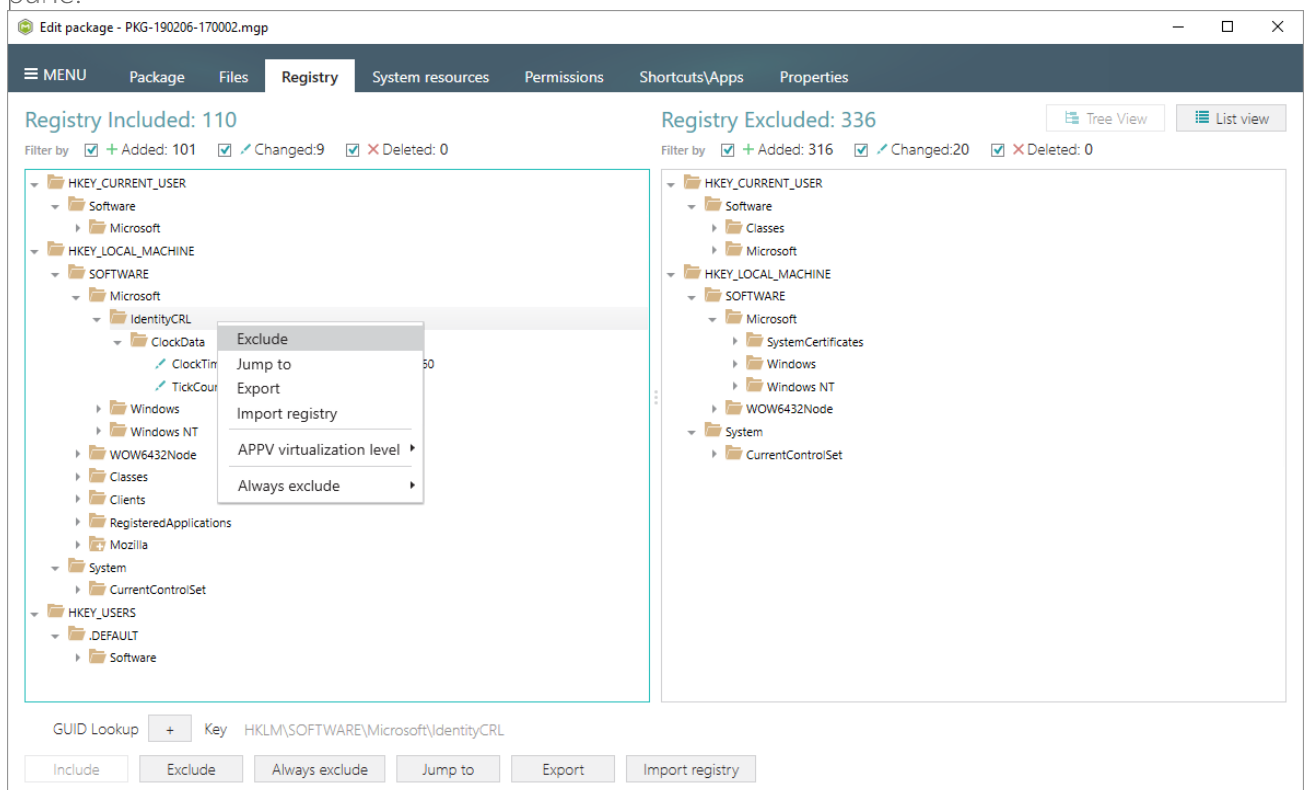


- Once the project is opened in the project editor, it is strongly recommended to review the Files, Registry, System resources tabs and exclude the accidentally captured resources, which do not belong to the application. Such accidentally captured resources are also called system noise and it could be Windows Updates, Search indexing, Antivirus software and so on.

- In order to review and exclude unnecessary files or folders, go to the Files tab, and select Exclude from the context menu of an item, which is located in the left 'Files Included' pane.

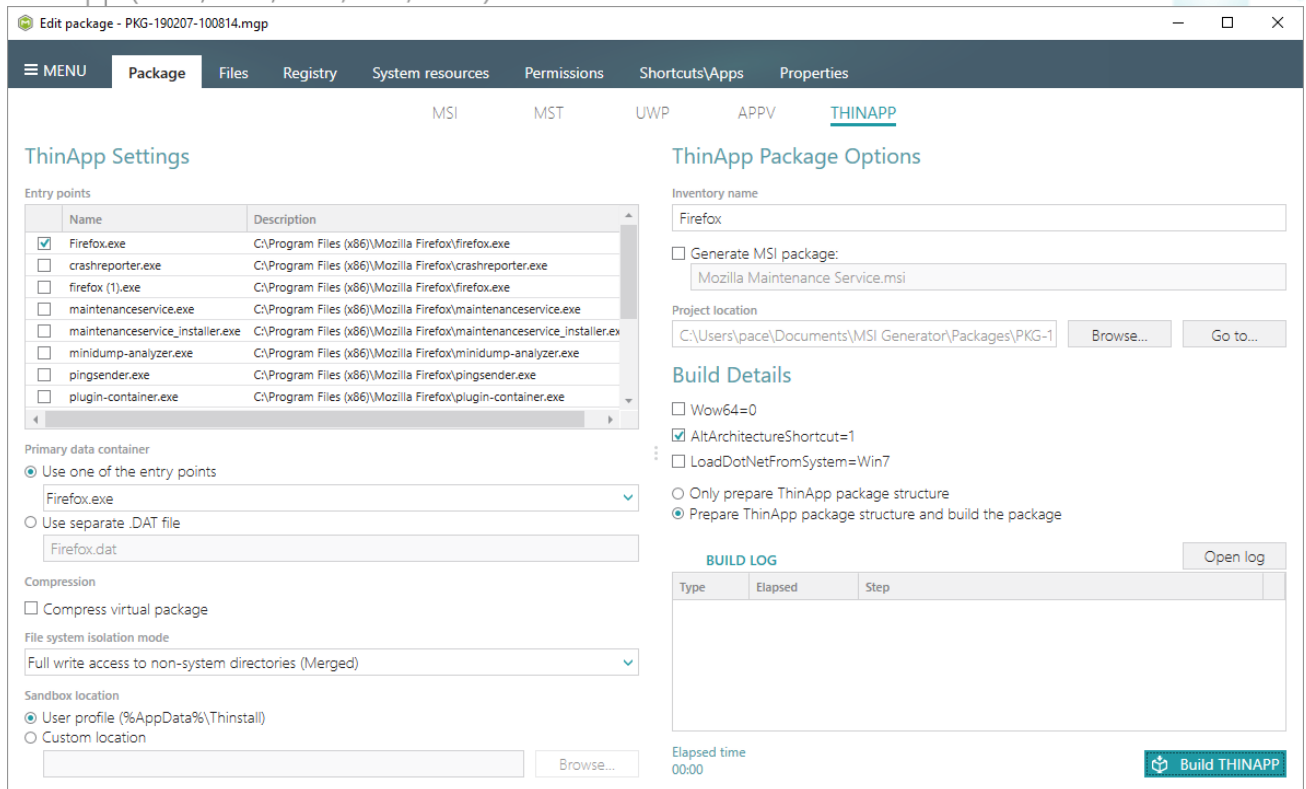


- In order to review and exclude unnecessary registry keys or values, go to the Registry tab, and select Exclude from the context menu of an item, which is located in the left 'Registry Included' pane.

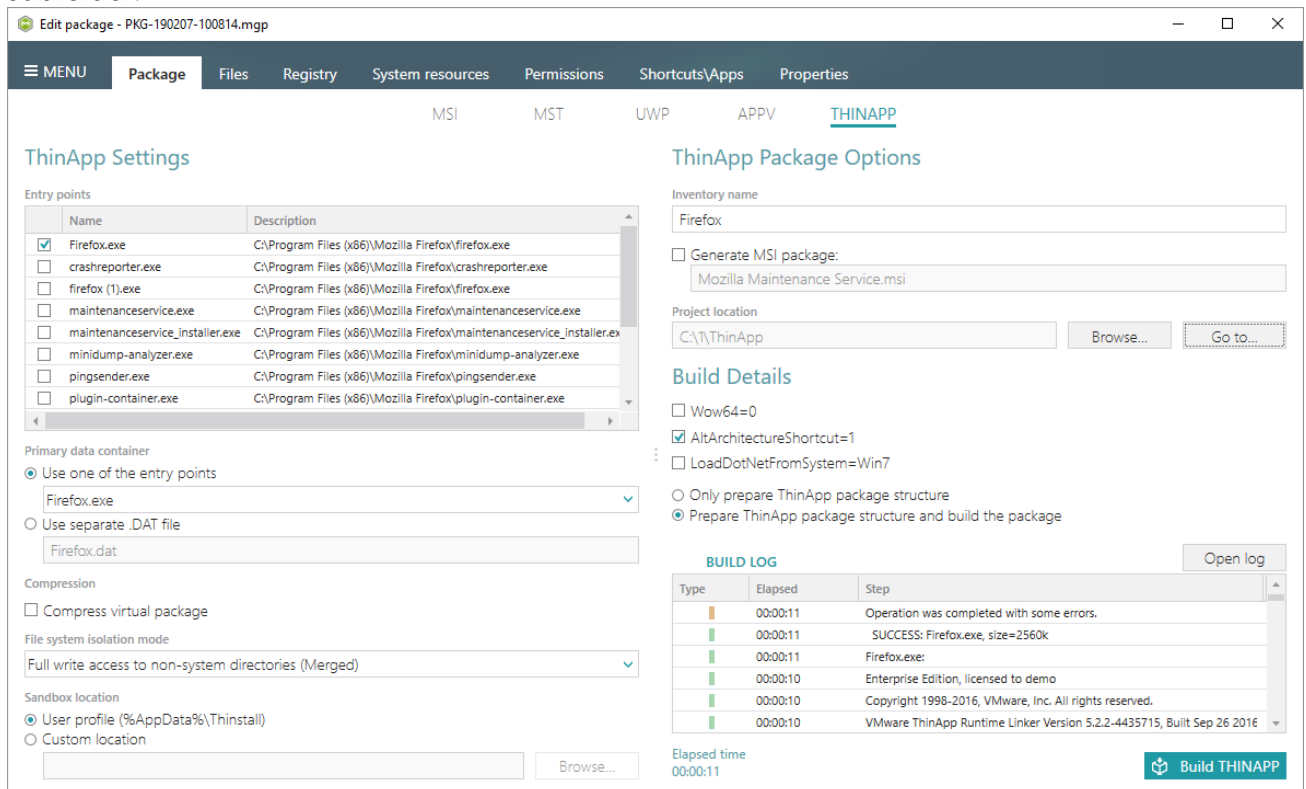


- For managing THINAPP Settings such as entry points, primary data container, compression, file system isolation mode, sandbox location and the like, see section 3.8.9
- Finally, to generate a THINAPP package navigate to the Package -> THINAPP tab and click Build THINAPP. NOTE For building THINAPP packages, PACE Suite requires the VMware

ThinApp (5.0.0/5.0.1/5.1.0/5.1.1/5.2.0) installed and activated with the valid license.



- Once the package is built, click Go to..., located next to the Project location field, to open the package-containing folder in Windows Explorer. Find the generated package in the bin subfolder.



3.7 Edit MSI/MST

NOTE Adhere to the following [Windows Installer Best Practices](#) during editing your package.

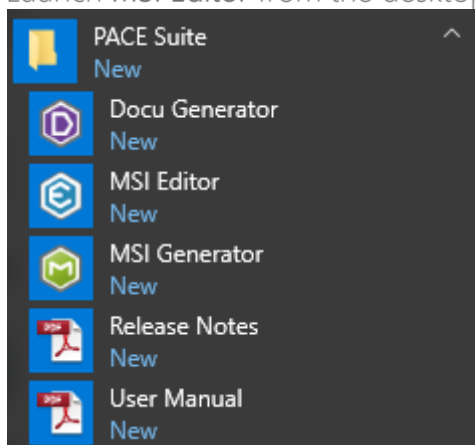
Choose a scenario that better suits your needs:

- For managing **Application Details** see section 3.7.2
Manage product name, version, language and manufacturer of the application.
- For managing **Package IDs** see section 3.7.3
Manage product, upgrade and package codes.
- For managing **Files and Folders** see section 3.7.4
Review package files and folders, add new folders, import files, set permissions, register COM objects and .NET assemblies, set the INSTALLDIR folder and the like.
- For managing **Shortcuts** see section 3.7.5
Review package shortcuts, add new or import existing shortcuts, manage their properties.
- For managing **Registry** see section 3.7.6
Review package registry, add new or import from REG file registry keys and values, integrate ActiveSetup, set permissions and the like.
- For managing **Custom Actions** see section 3.7.7
Manage custom and standard actions of the package, add new one to run scripts, EXE, etc.
- For managing **Drivers** see section 3.7.8
Review the package device drivers, modify and add new ones.
- For managing **Features and Components** see section 3.7.9
Review the feature-component structure and resources, linked with components. Add new features, components and manage their properties.
- For managing **ARP Appearance** see section 3.7.10
Control how the package will be displayed in the App list (Add & Remove Programs).
- For managing **Upgrades** see section 3.7.11
Manage the package upgrade settings to automatically upgrade previous MSI packages.
- For managing **MSI Properties** see section 3.7.12
Manage package properties, defined in the Property table and those, which will be updated by the CustomAction, AppSearch, Control, ComboBox, CheckBox, RadioButton tables.
- For managing **Summary Information** see section 3.7.13
Manage Summary Information of the opened MSI/MST.
- For managing **MSI Tables** see section 3.7.14
Add, import, drop MSI tables.
- For managing **Merge Modules**, described in section 3.7.15
Create new MSM or importing existing MSM to the package.

3.7.1 Pre-Condition

For editing MSI/MST open the file as described below:

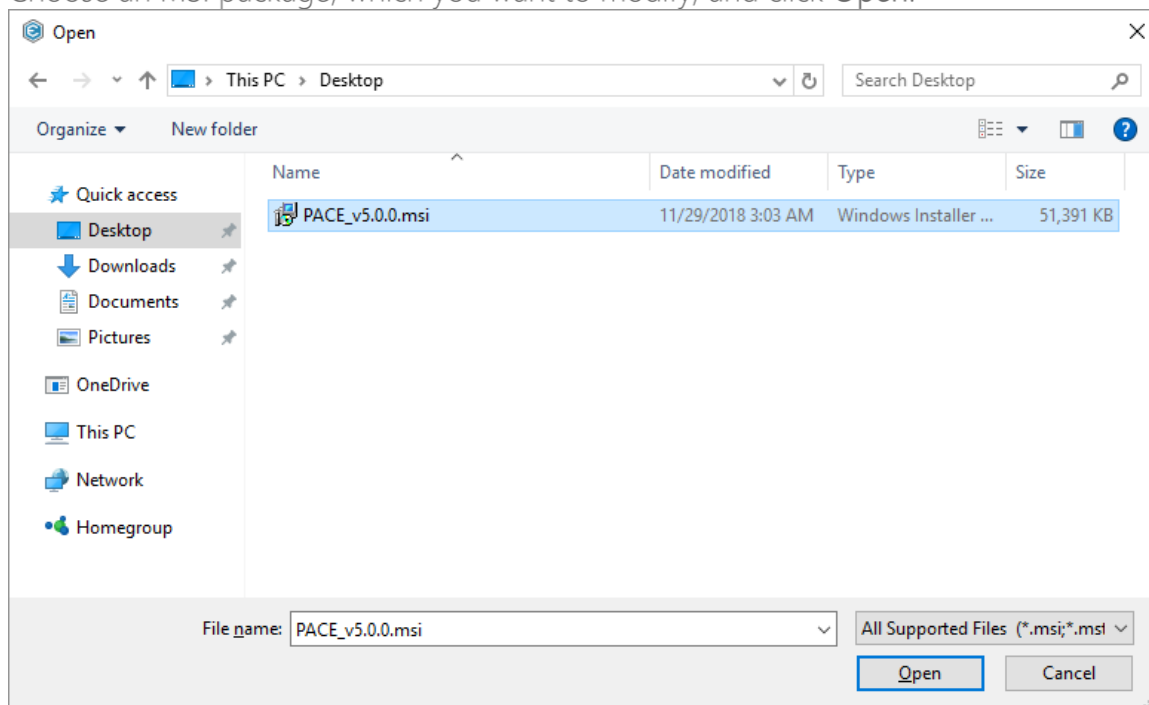
- Launch MSI Editor from the desktop or the start menu shortcut.



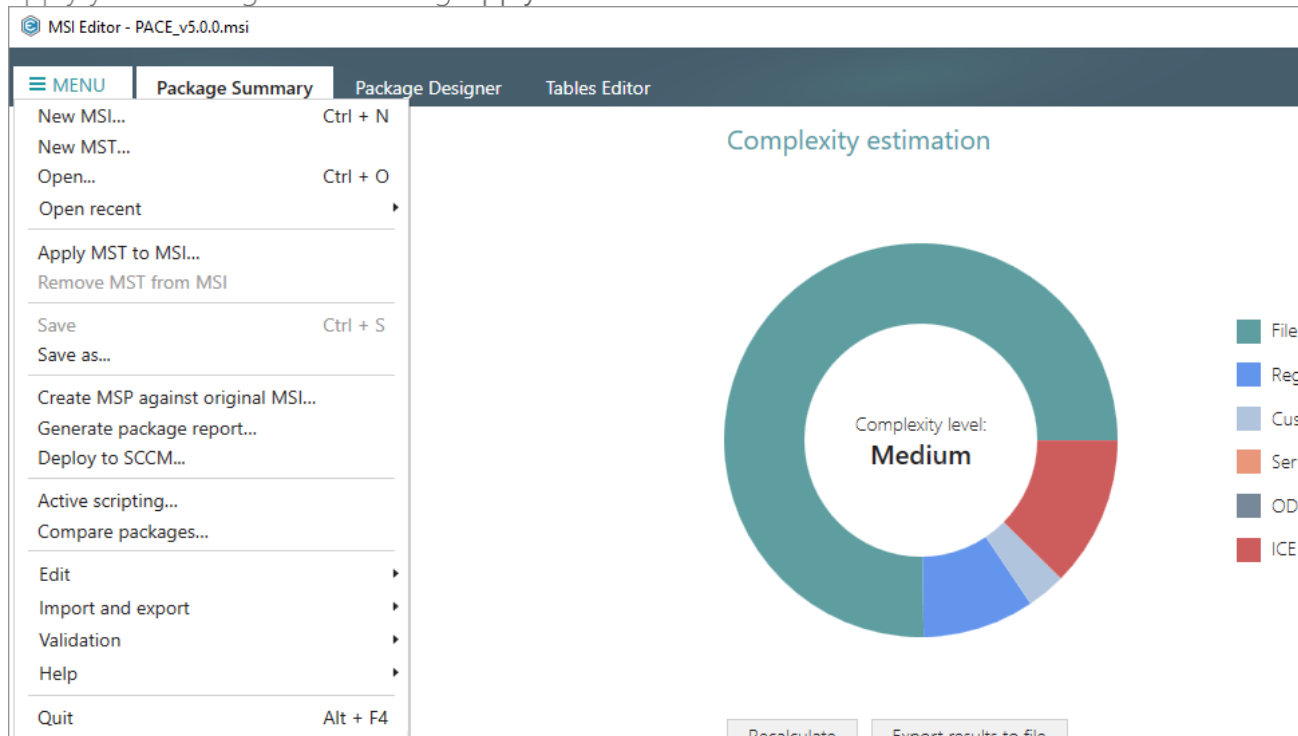
- Select Open... from the MENU.



- Choose an MSI package, which you want to modify, and click Open.



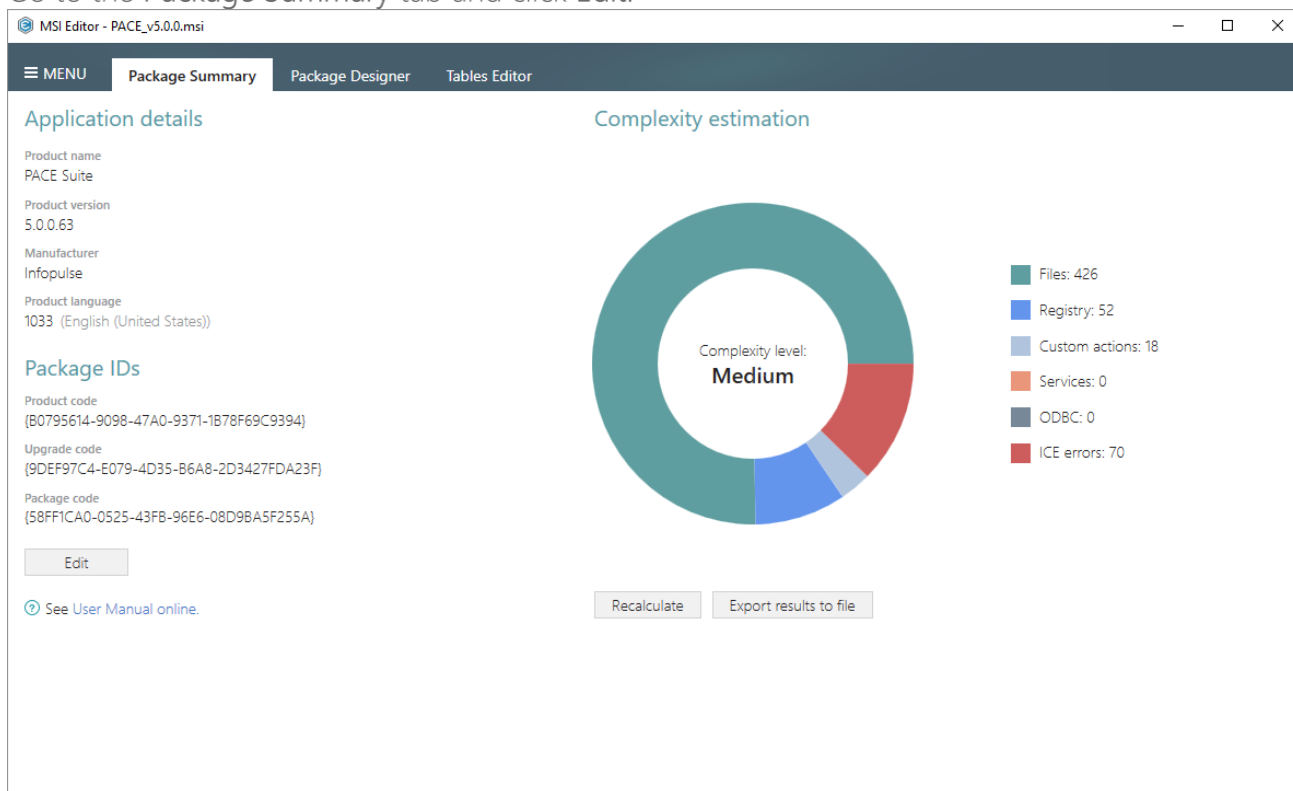
- If you want to modify MSI via MST, select New MST from the MENU to create a blank MST or apply your existing MST selecting Apply MST to MSI.



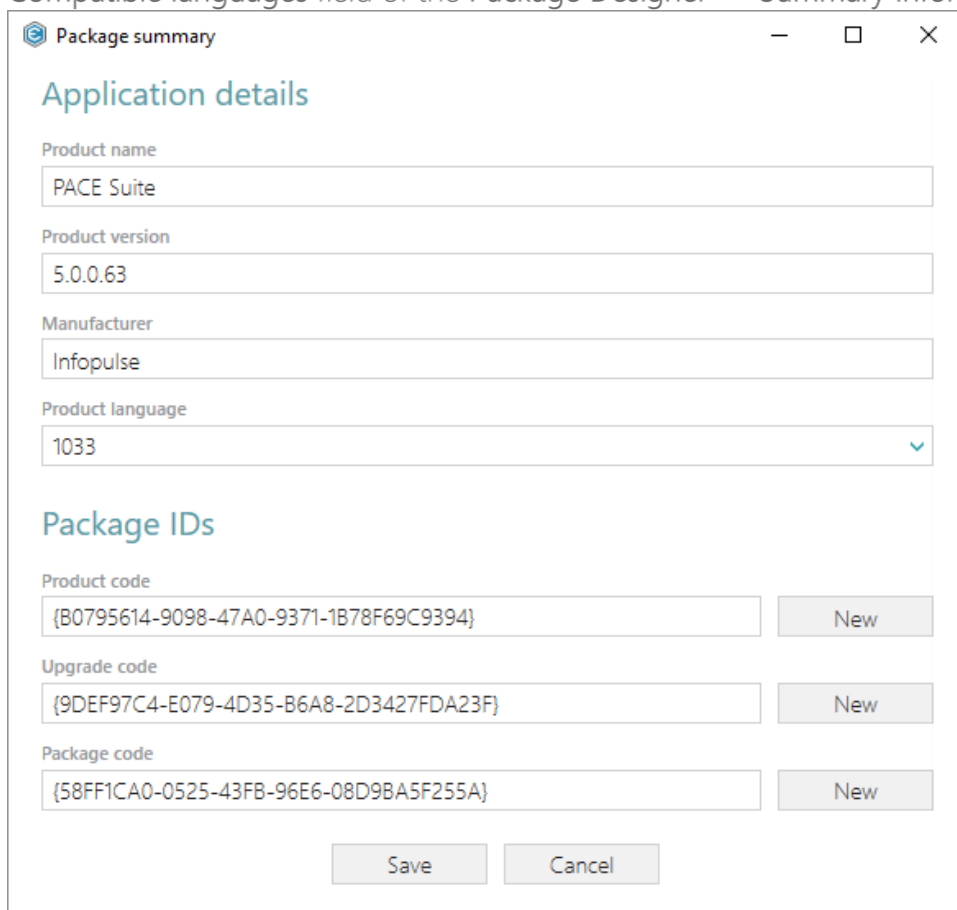
3.7.2 Application Details

Manage product name, version, language and manufacturer of the application.

- Go to the Package Summary tab and click Edit.



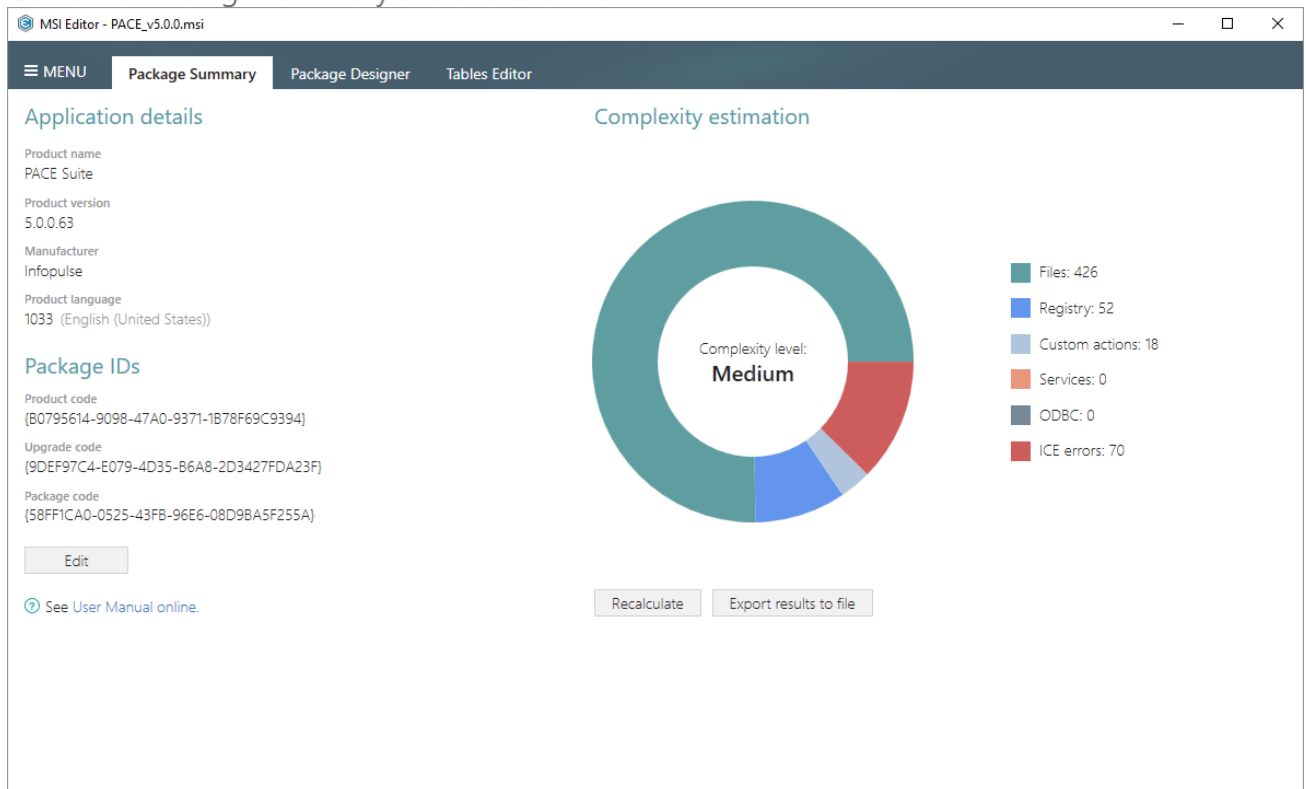
- Update the necessary values of the Application details section and click Save.
NOTE If you specify a new product language, append this language ID to a value of the Compatible languages field of the Package Designer -> Summary Information tab.



3.7.3 Package IDs

Manage product, upgrade and package codes.

- Go to the Package Summary tab and click Edit.



Application details

Product name
PACE Suite

Product version
5.0.0.63

Manufacturer
Infopulse

Product language
1033 (English (United States))

Package IDs

Product code
{B0795614-9098-47A0-9371-1B78F69C9394}

Upgrade code
{9DEF97C4-E079-4D35-B6A8-2D3427FDA23F}

Package code
{58FF1CA0-0525-43FB-96E6-08D9BA5F255A}

[Edit](#)

[See User Manual online.](#)

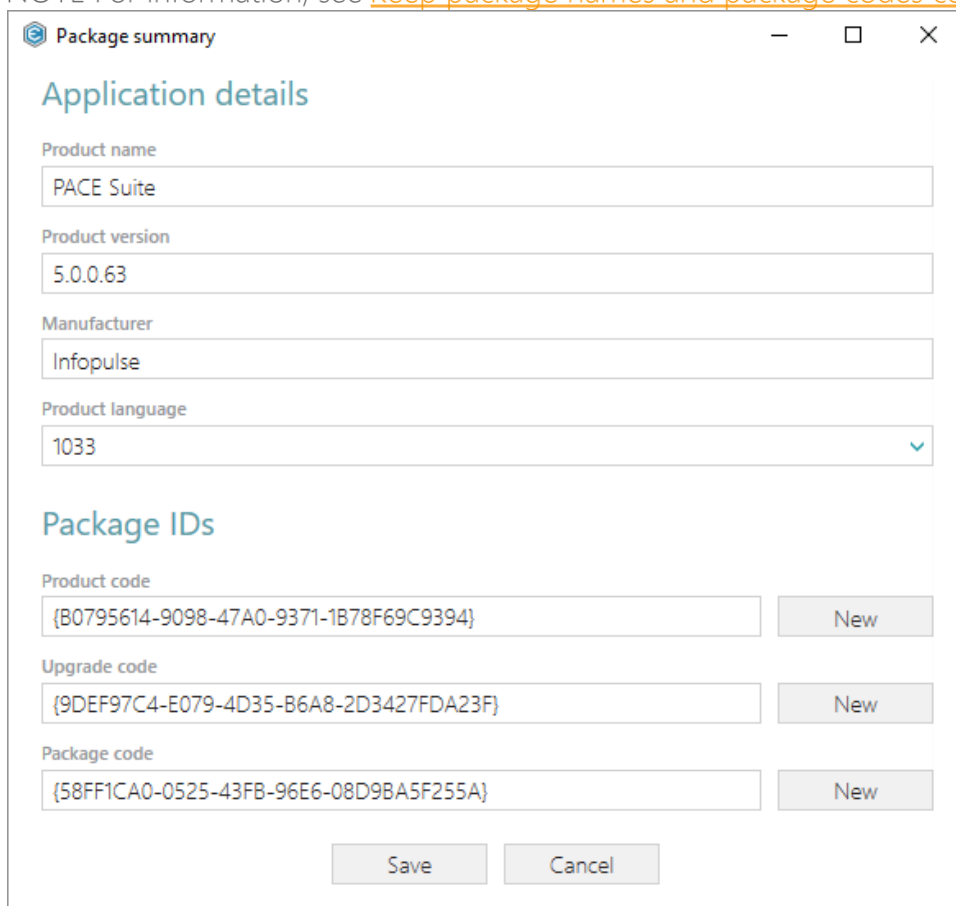
Complexity estimation

Complexity level:
Medium

Files: 426
Registry: 52
Custom actions: 18
Services: 0
ODBC: 0
ICE errors: 70

[Recalculate](#) [Export results to file](#)

- Update the necessary values of the Package IDs section and click Save.
NOTE For information, see [Keep package names and package codes consistent.](#)



Package summary

Application details

Product name
PACE Suite

Product version
5.0.0.63

Manufacturer
Infopulse

Product language
1033

Package IDs

Product code
{B0795614-9098-47A0-9371-1B78F69C9394} [New](#)

Upgrade code
{9DEF97C4-E079-4D35-B6A8-2D3427FDA23F} [New](#)

Package code
{58FF1CA0-0525-43FB-96E6-08D9BA5F255A} [New](#)

[Save](#) [Cancel](#)

3.7.4 Files and Folders

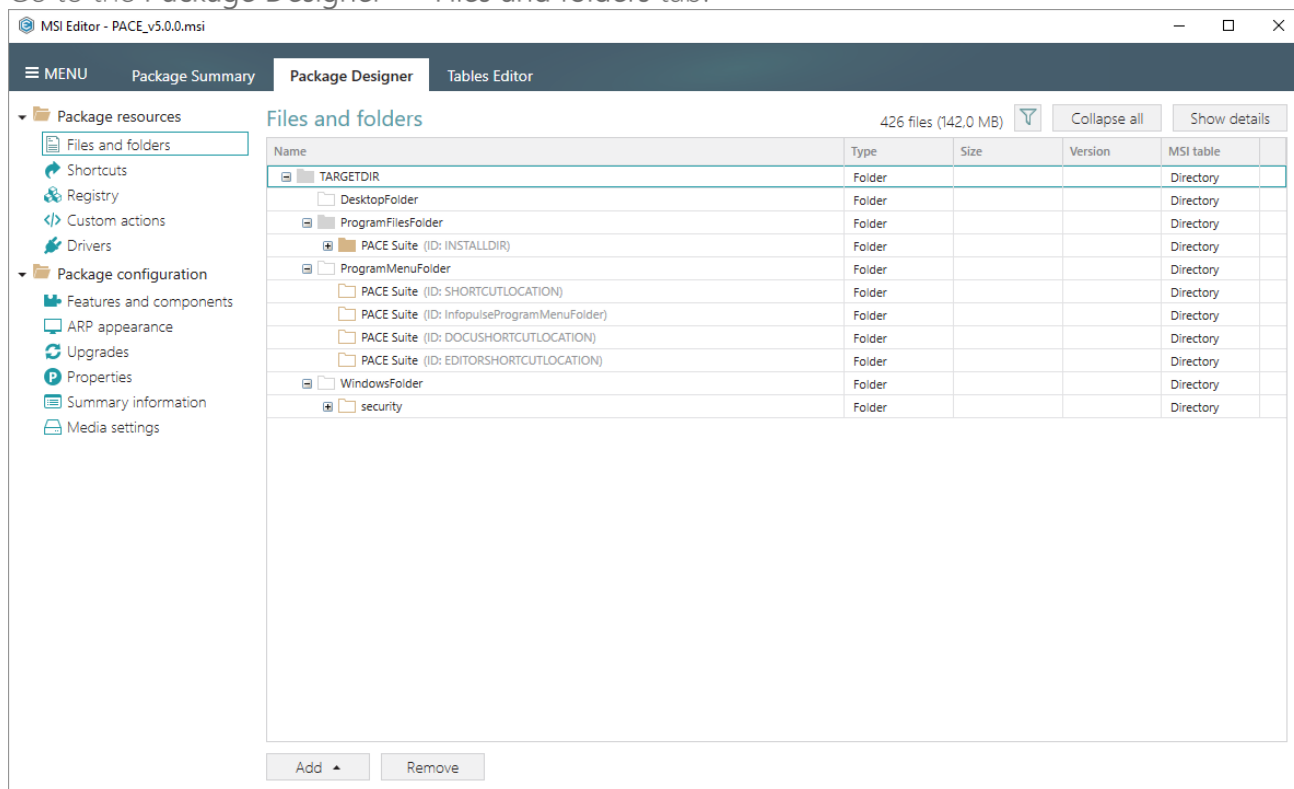
Choose a scenario that better suits your needs:

- **Add System Folder**, described in section 3.7.4.1
Add a system (standard) folder to the package.
- **Add Subfolder**, described in section 3.7.4.2
Add a subfolder (user-defined folder) to the package.
- **Import Files and COM**, described in section 3.7.4.3
Import files along with their, extracted on-the-fly, COM information.
- **Change Compression Type**, described in section 3.7.4.4
Change the compression type for all package files by rebuilding the whole package.
- **Set Permissions**, described in section 3.7.4.5
Set custom permissions for a file or folder.
- **Remove Permissions**, described in section 3.7.4.6
Remove the captured or manually set custom permissions from a file or folder.
- **Move Files, Folders**, described in section 3.7.4.7
Move a file or a folder from one folder to another.
- **Set INSTALLDIR**, described in section 3.7.4.8
Set a subfolder (user-defined folder) of the package as the INSTALLDIR.
- **Control Empty Folder Creation**, described in section 3.7.4.9
Force the empty folder creation on install.
- **Control File/Folder Removal**, described in section 3.7.4.10
Force folder and its files removal on install or uninstall.
NOTE By default, MSI removes only those files, which it installs. This means that files, created during the application work, will remain on the system.
- **Edit INI File**, described in section 3.7.4.11
Edit a name, destination location and content of the INI file, saved to the IniFile table.
- **Edit File Properties**, described in section 3.7.4.12
Edit a name, identifier, destination location, component and many other attributes of the file, saved to the File table.
- **Edit Folder Properties**, described in section 3.7.4.13
Edit a folder target and source names, identifier, and its parent folder.

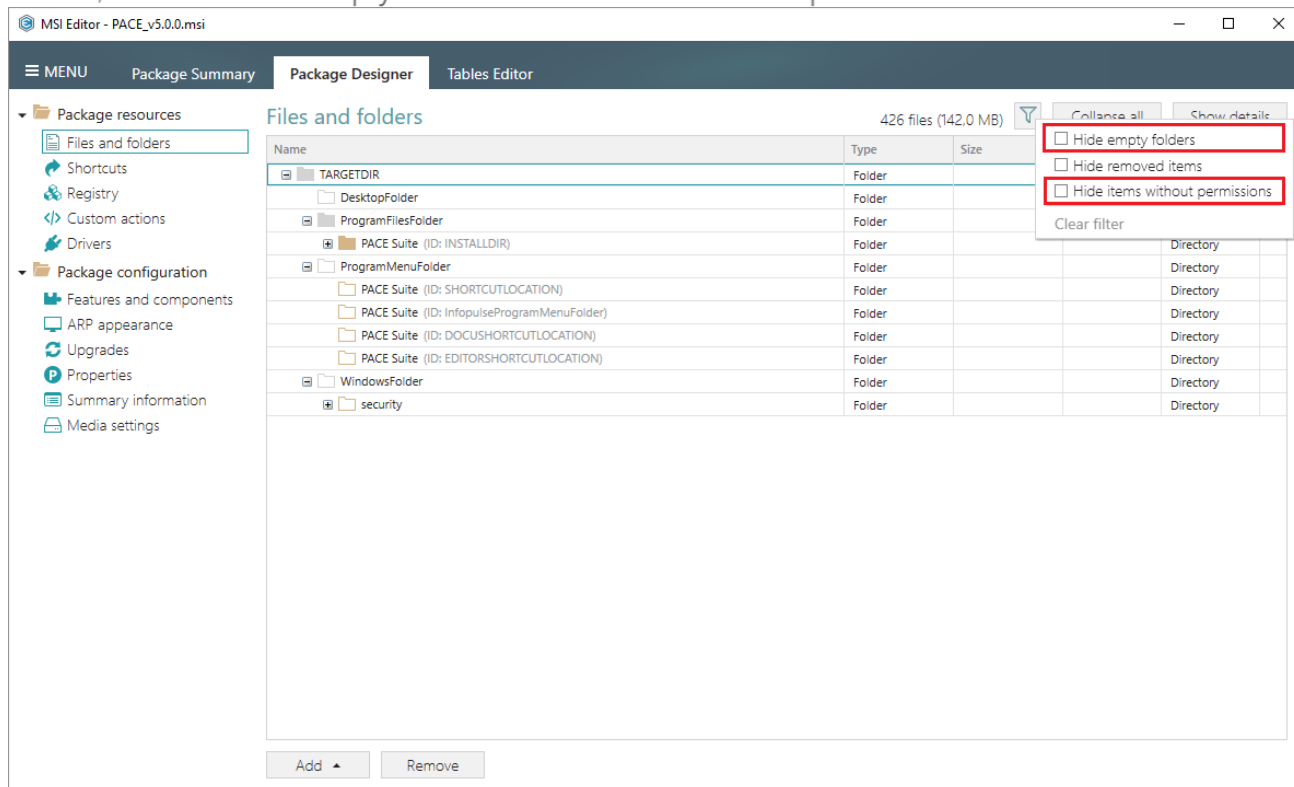
3.7.4.1 Add System Folder

Add a system (standard) folder from the list into the package.

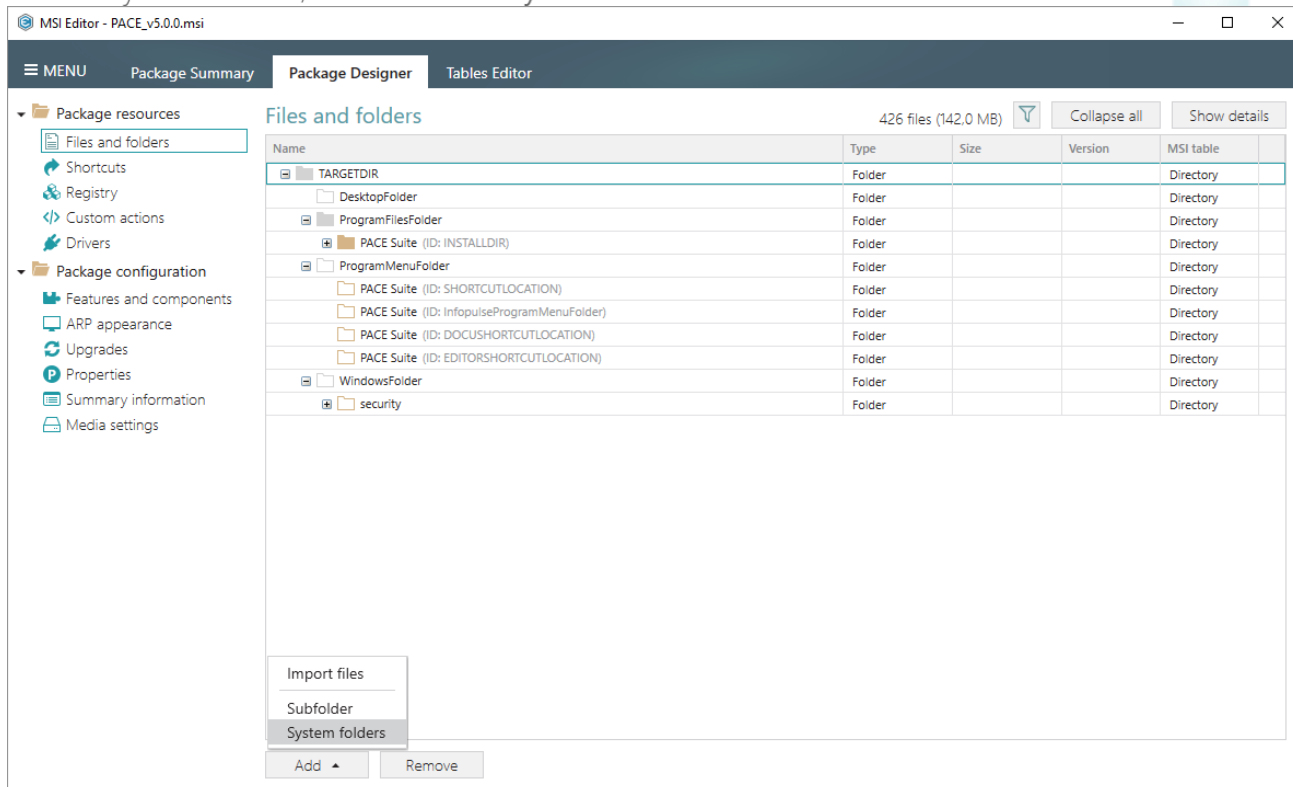
- Go to the Package Designer -> Files and folders tab.



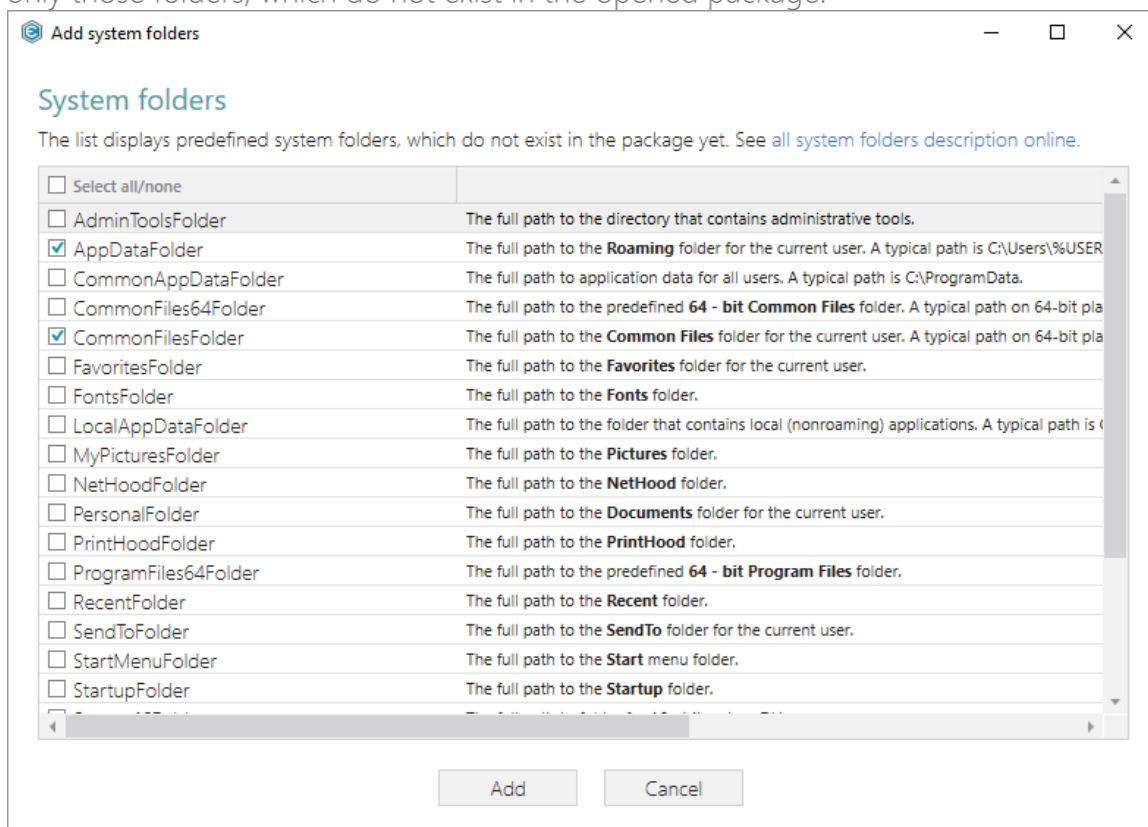
- Ensure that the necessary system folder does not exist in the package. To display all package folders, clear the Hide empty folder and Hide items without permissions filters.



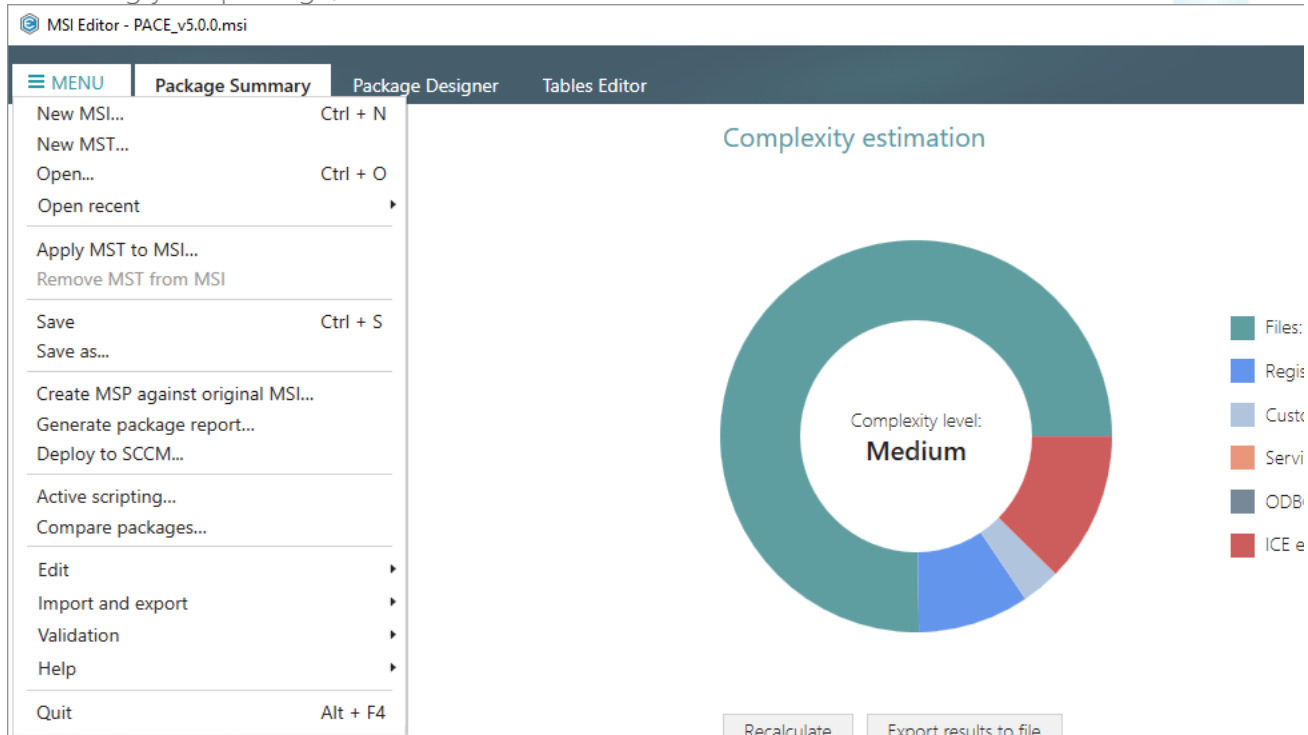
- To add system folders, select Add -> System folders from the toolbox.



- Choose system folders, which you want to add, and then click Add. Note that this list displays only those folders, which do not exist in the opened package.



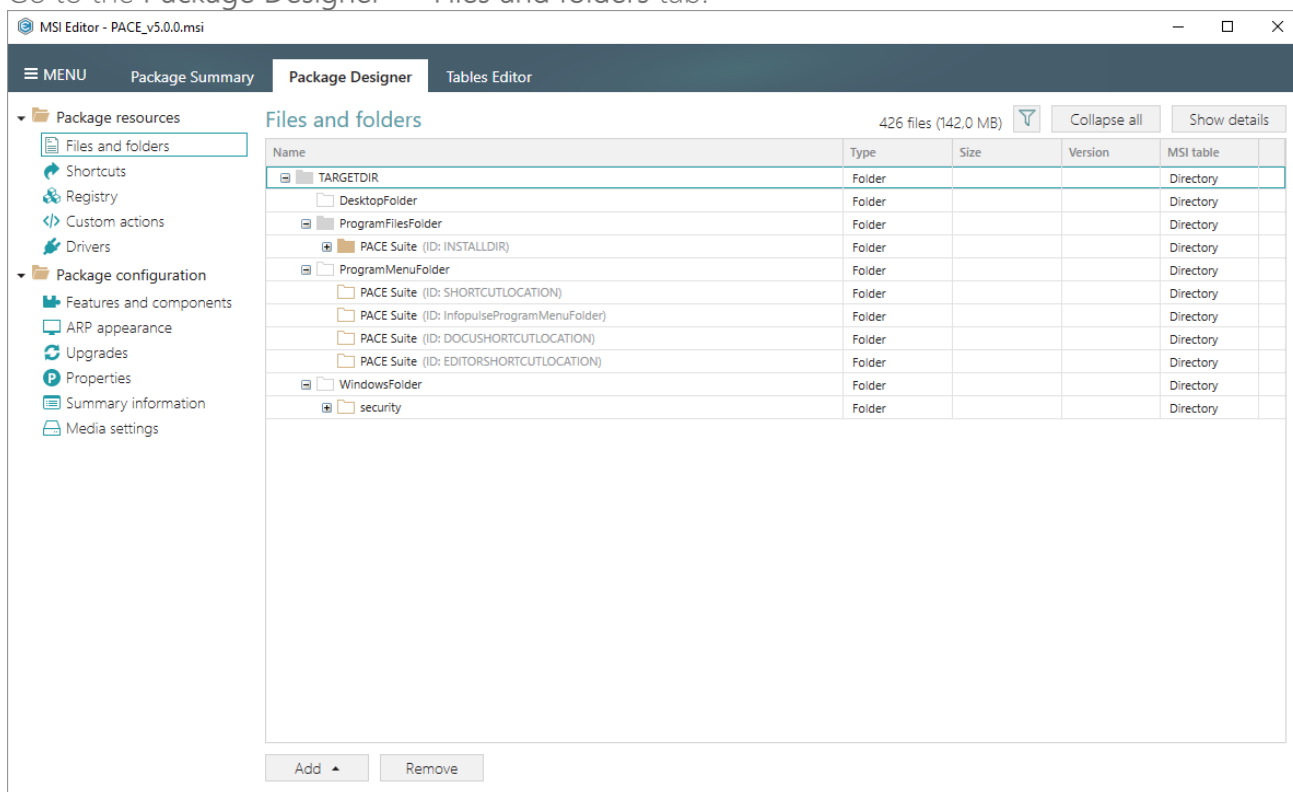
- For saving your package, select Save from the MENU.



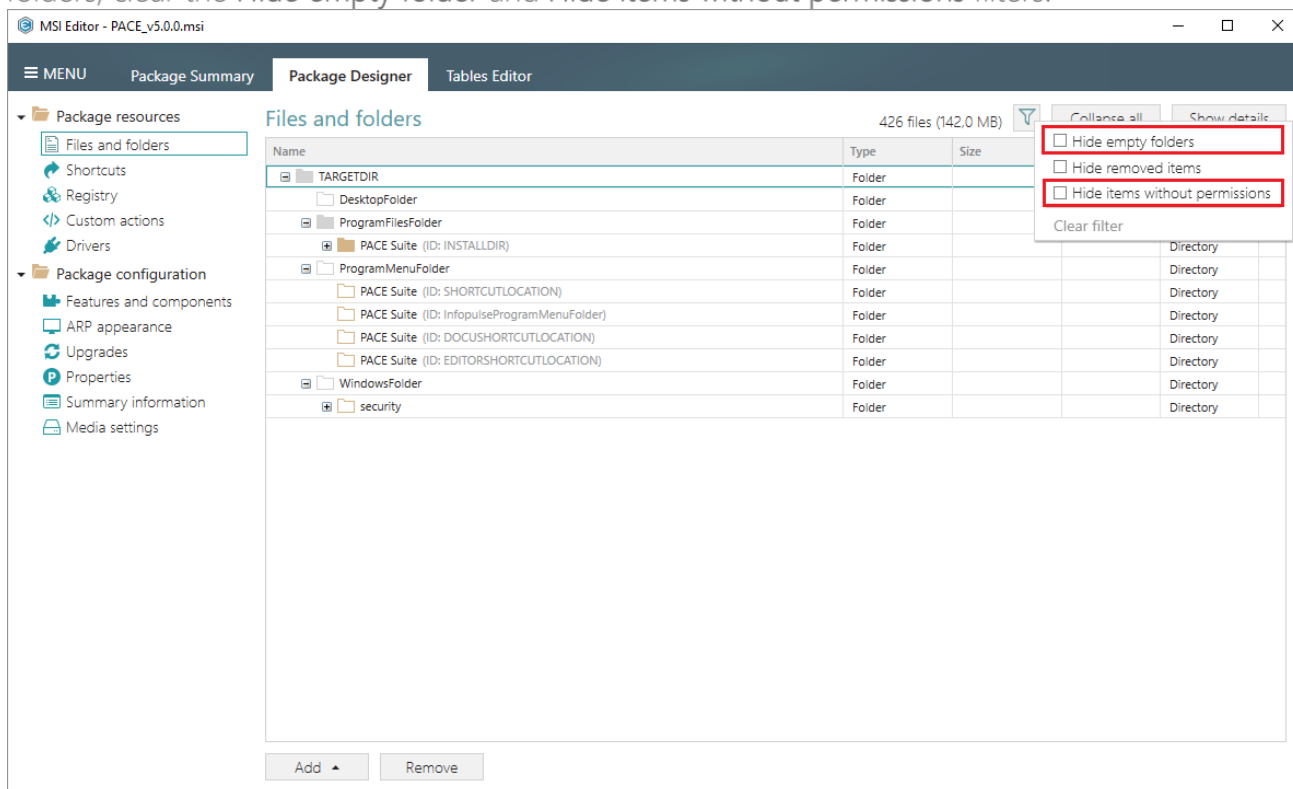
3.7.4.2 Add Subfolder

Add a subfolder (user-defined folder) to the package.

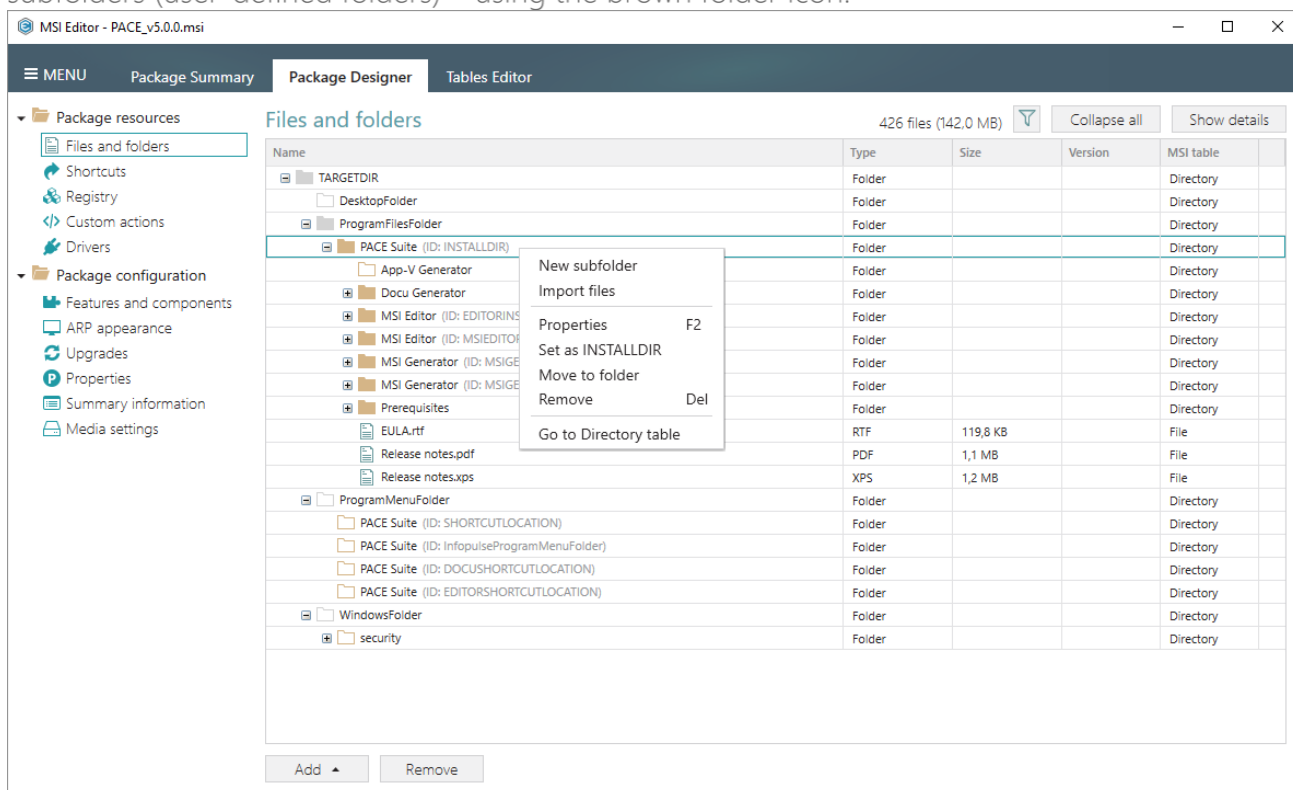
- Go to the Package Designer -> Files and folders tab.



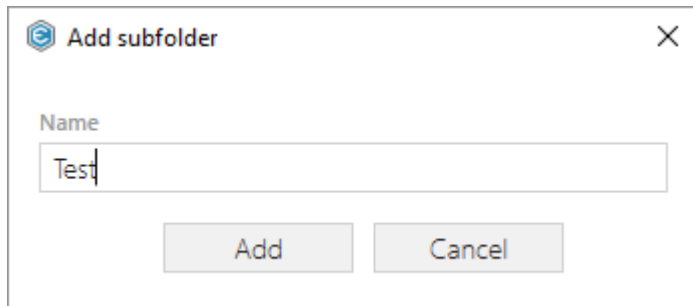
- Ensure that the necessary subfolder does not exist in the package. To display all package folders, clear the Hide empty folder and Hide items without permissions filters.



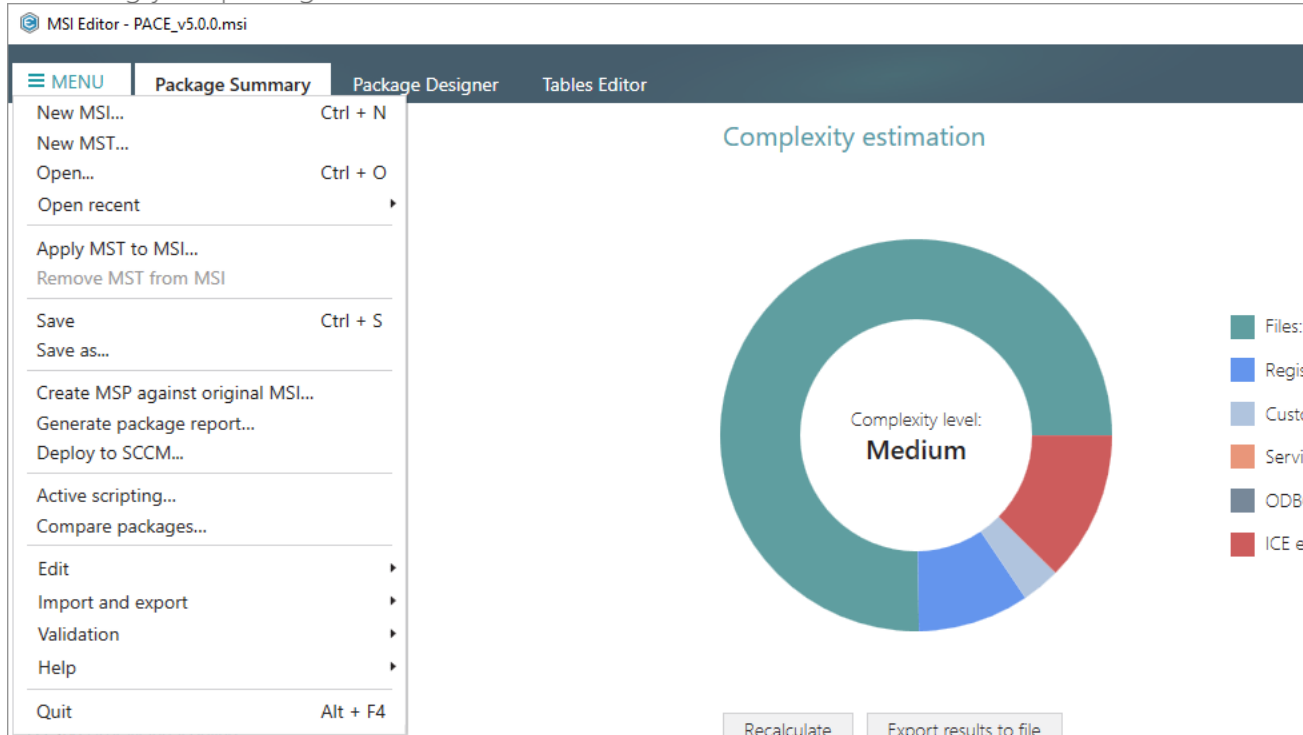
- Select New subfolder from the context menu of a folder, where you want to create a new subfolder. Note that system folders are displayed using the grey folder icon and the subfolders (user-defined folders) – using the brown folder icon.



- Enter a folder name and click Add.



- For saving your package, select Save from the MENU.

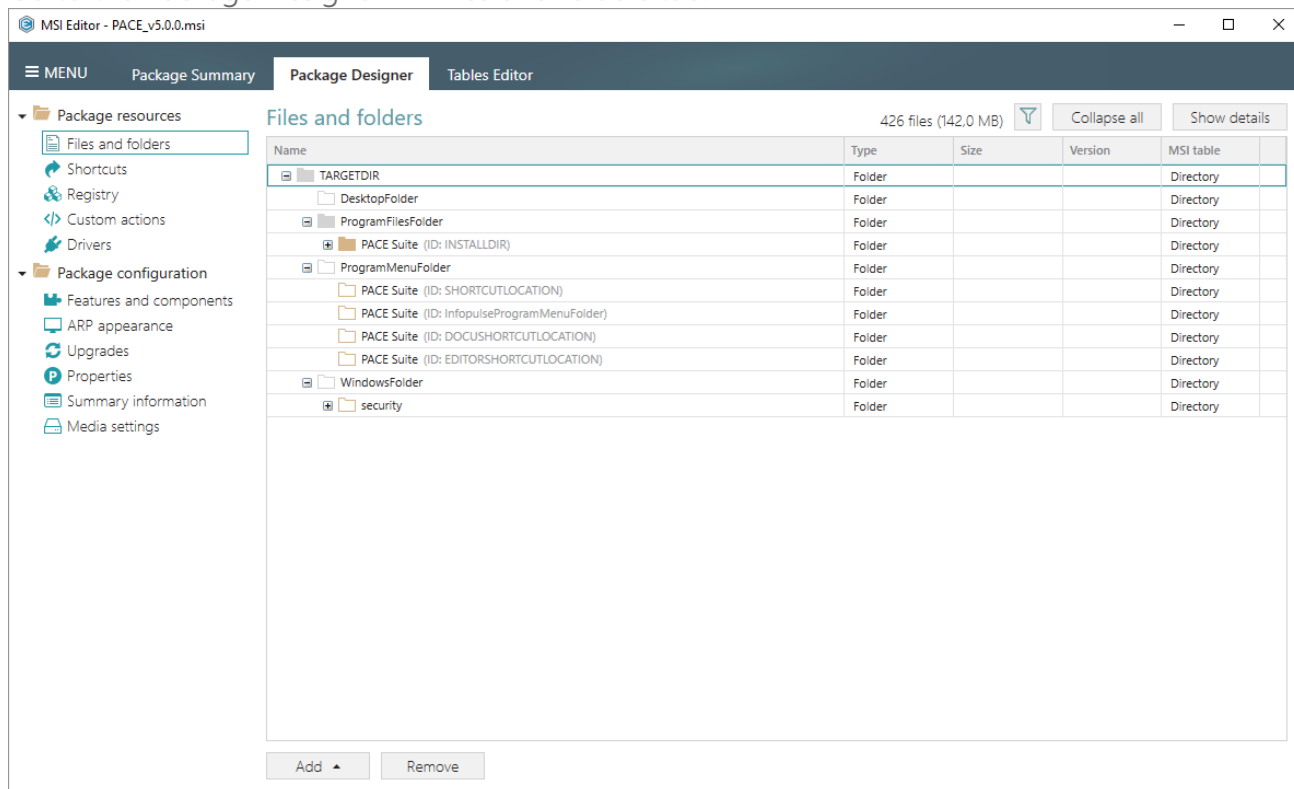


3.7.4.3 Import Files and COM

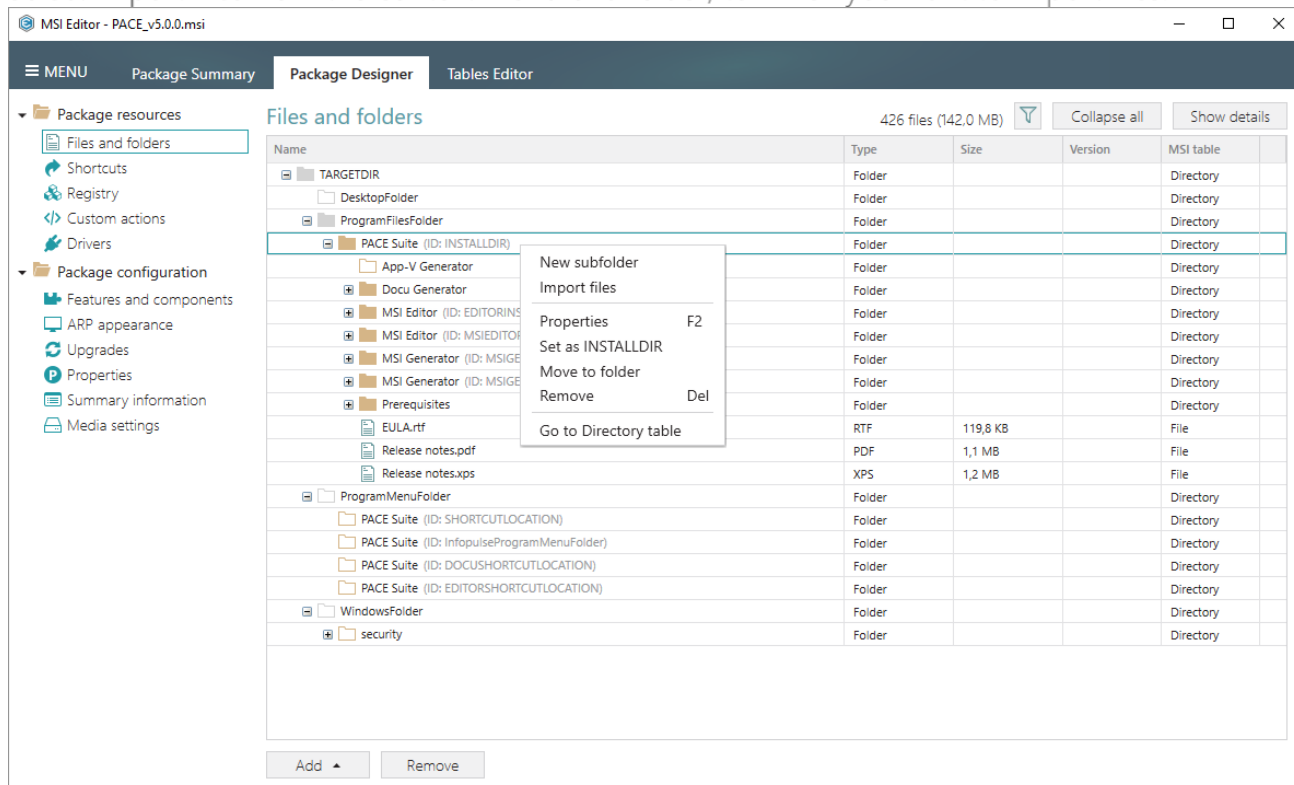
Import files along with their, extracted on-the-fly, COM information.

NOTE MSI Editor extracts both 32-bit and 64-bit COM information and .NET assemblies from the selected (*.DLL, *.OCX, *.LTB) files.

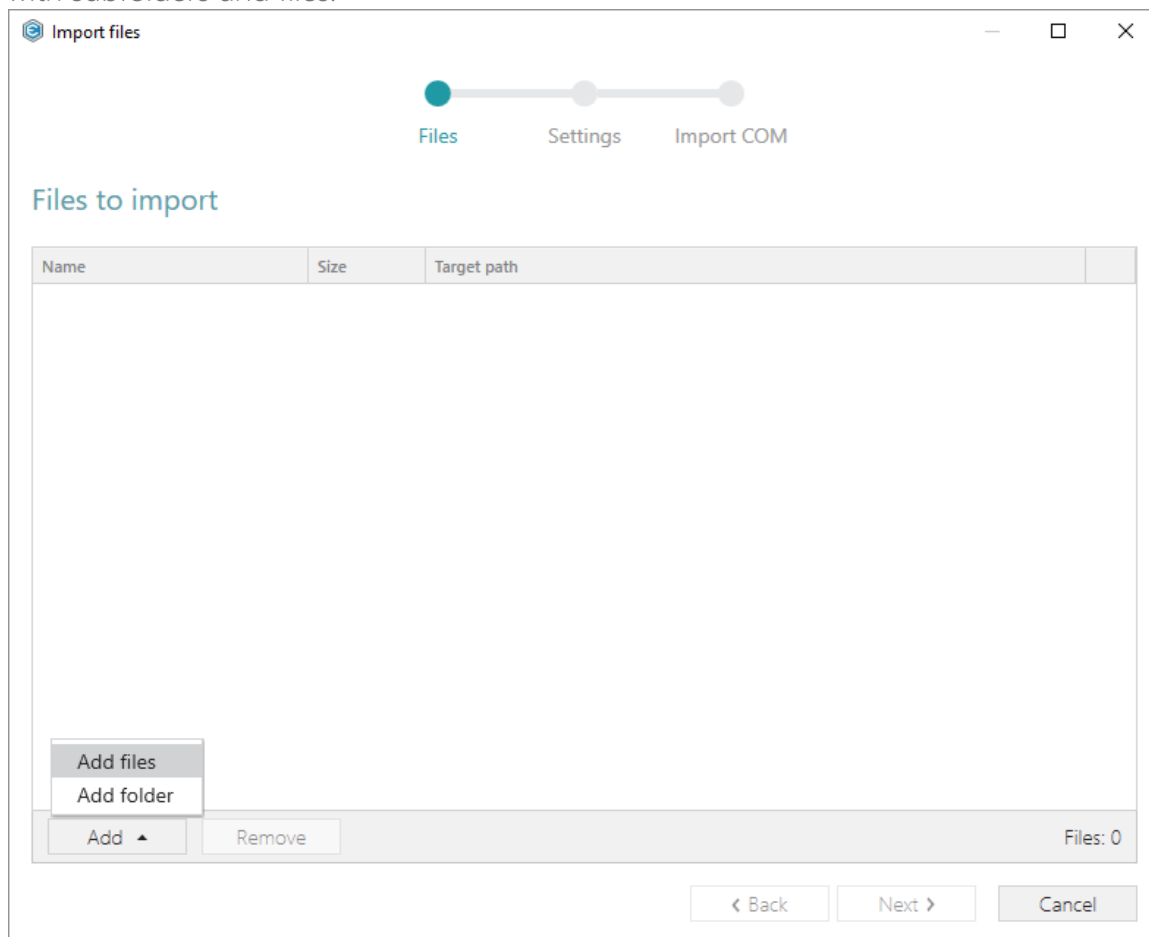
- Go to the Package Designer -> Files and folders tab.



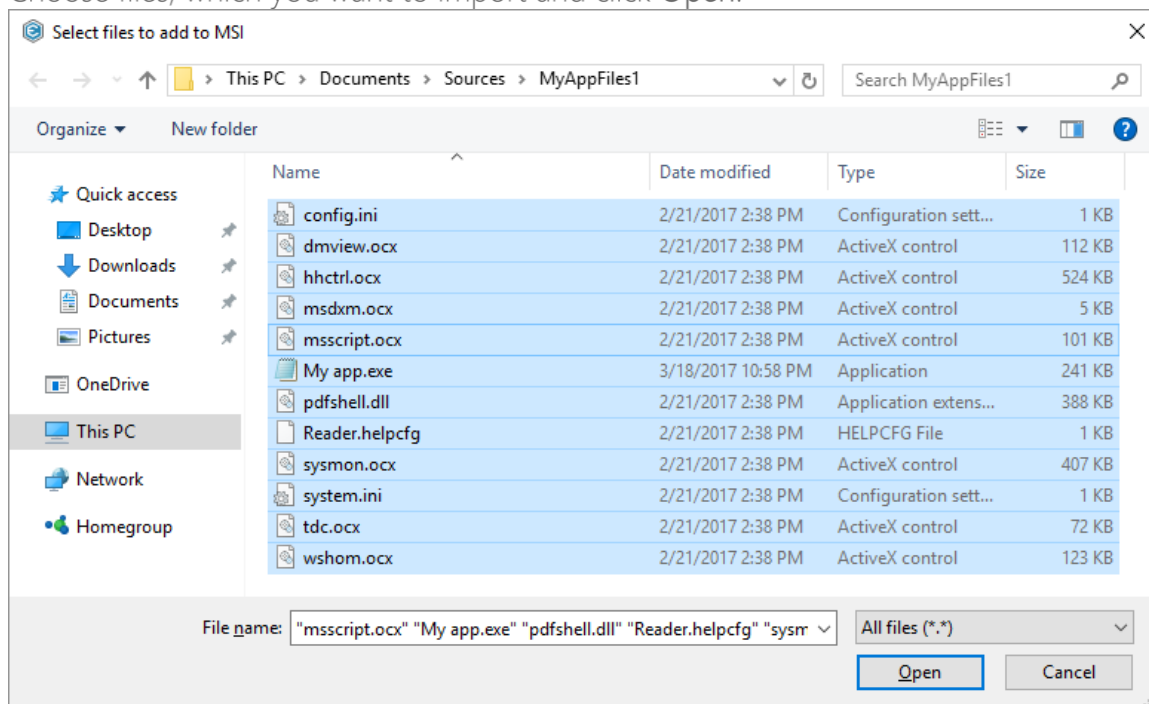
- Select Import files from the context menu of a folder, to which you want to import files.



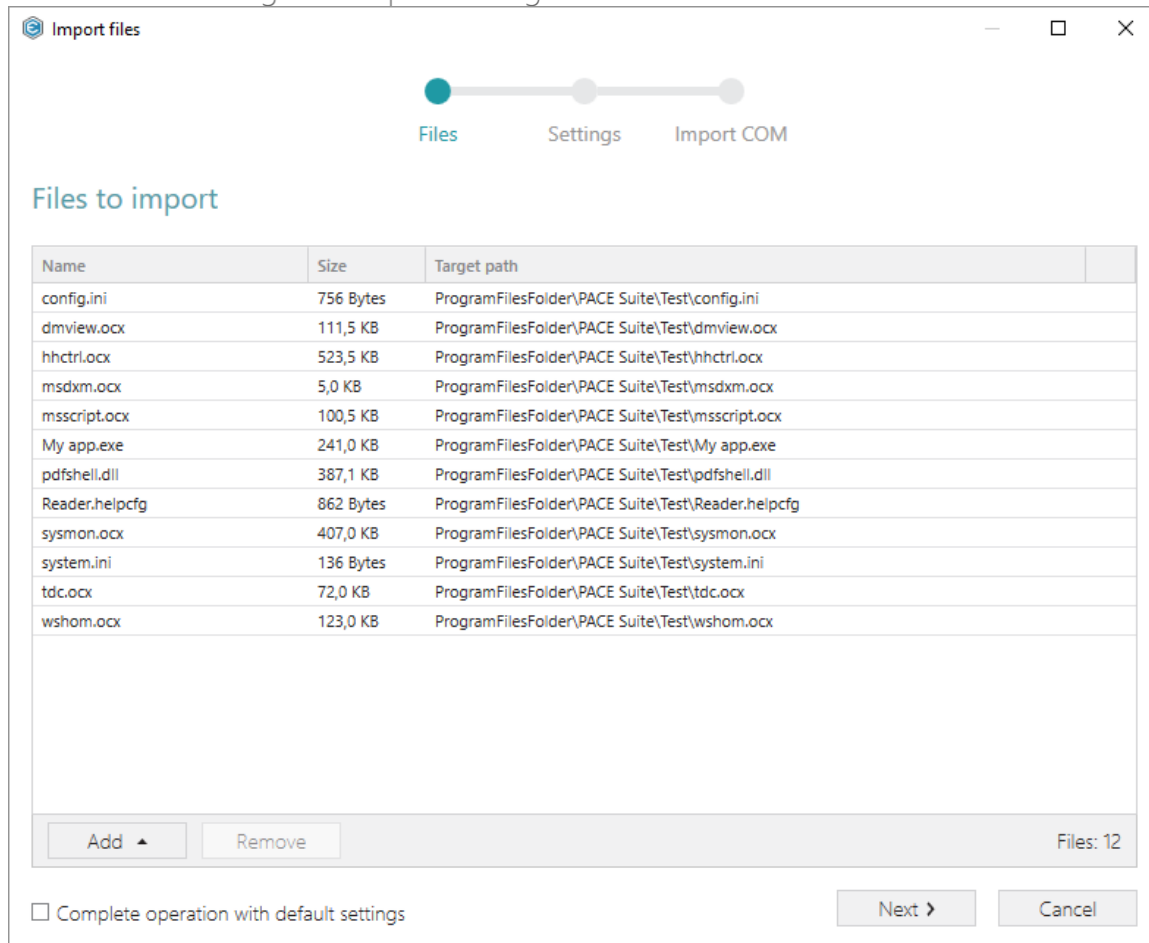
- Select Add -> Add files to choose files in a folder or Add -> Add folder to choose a folder with subfolders and files.



- Choose files, which you want to import and click Open.



- Click Next to manage the import settings.



- Select the INI file handling options, target feature settings and click Next. Find the detailed description of these settings in table below.

Import files

Files

Settings

Import COM

Settings

INI handling

Save valid INI files to the 'IniFile' table; invalid ones to the 'File' table (recommended)

Save all INI files to the 'File' table

Save only valid content of all INI files to the 'IniFile' table and then duplicate all INI files to the 'File' table

[See invalid INI files](#)

Target feature

<PACE feature>

New feature

Manage features automatically

Complete now with default settings

< Back

Next >

Cancel

INI handling

Save valid INI files to the 'IniFile' table; invalid ones to the 'File' table (recommended)

INI files, which comply with the INI file format, will be saved to the 'IniFile' table.
All other INI files, which contain unsupported data, will be saved to the 'File' table as binary files.

Save all INI files to the 'File' table

All INI files will be saved only to the 'File' table as binary files.

Save only valid content of all INI files to the 'IniFile' table and then duplicate all INI files to the 'File' table

A valid content of all INI files will be saved to the 'IniFile' table, and then all INI files will be saved to the 'File' table as binary files.
This allows installing INI files to the target system keeping their original structure with unsupported data, and update the necessary INI file values.

Target feature

Manage features automatically

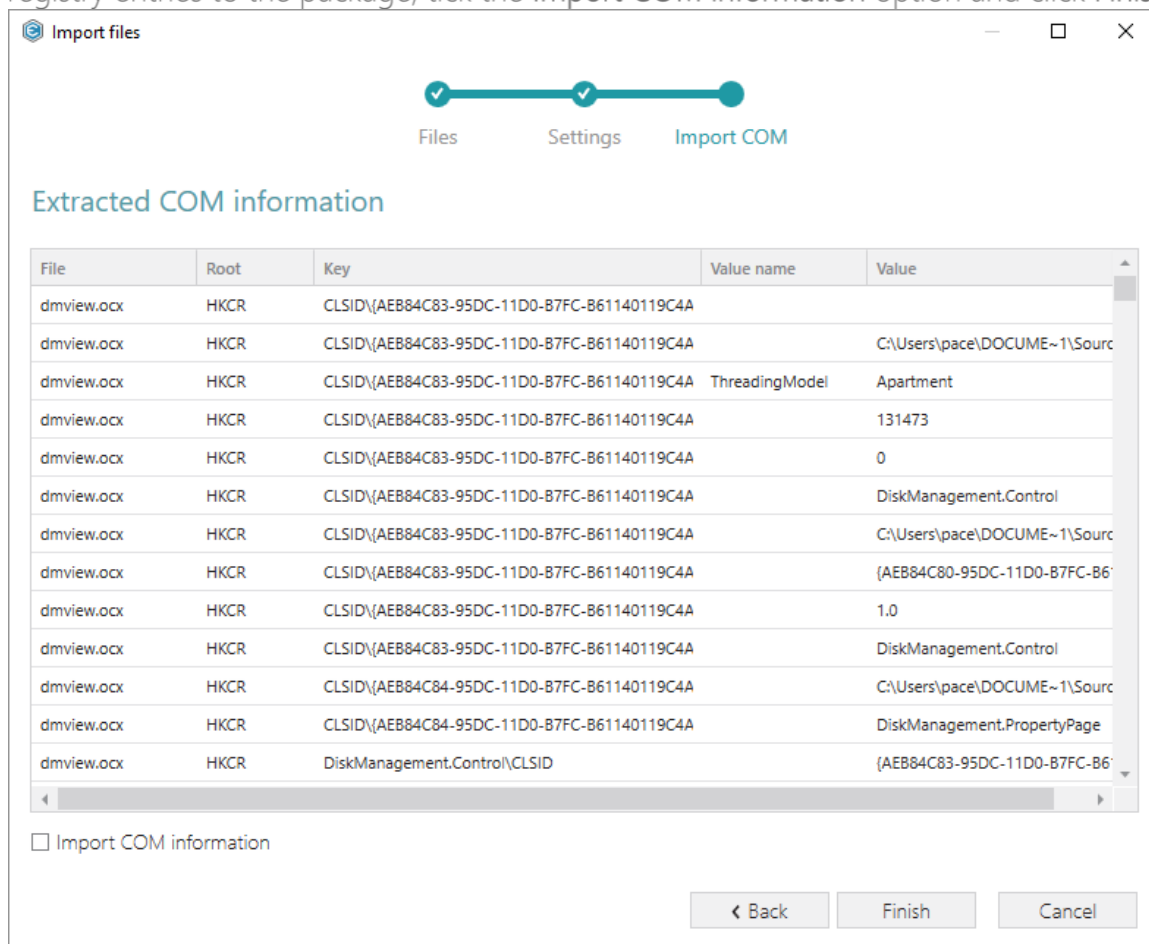
The specific PACE features will be created (or used if they exist) for the components, containing the imported files. Feature structure is based on the packaging best practices and depends on the destination location of files.

<a feature, selected from the list>

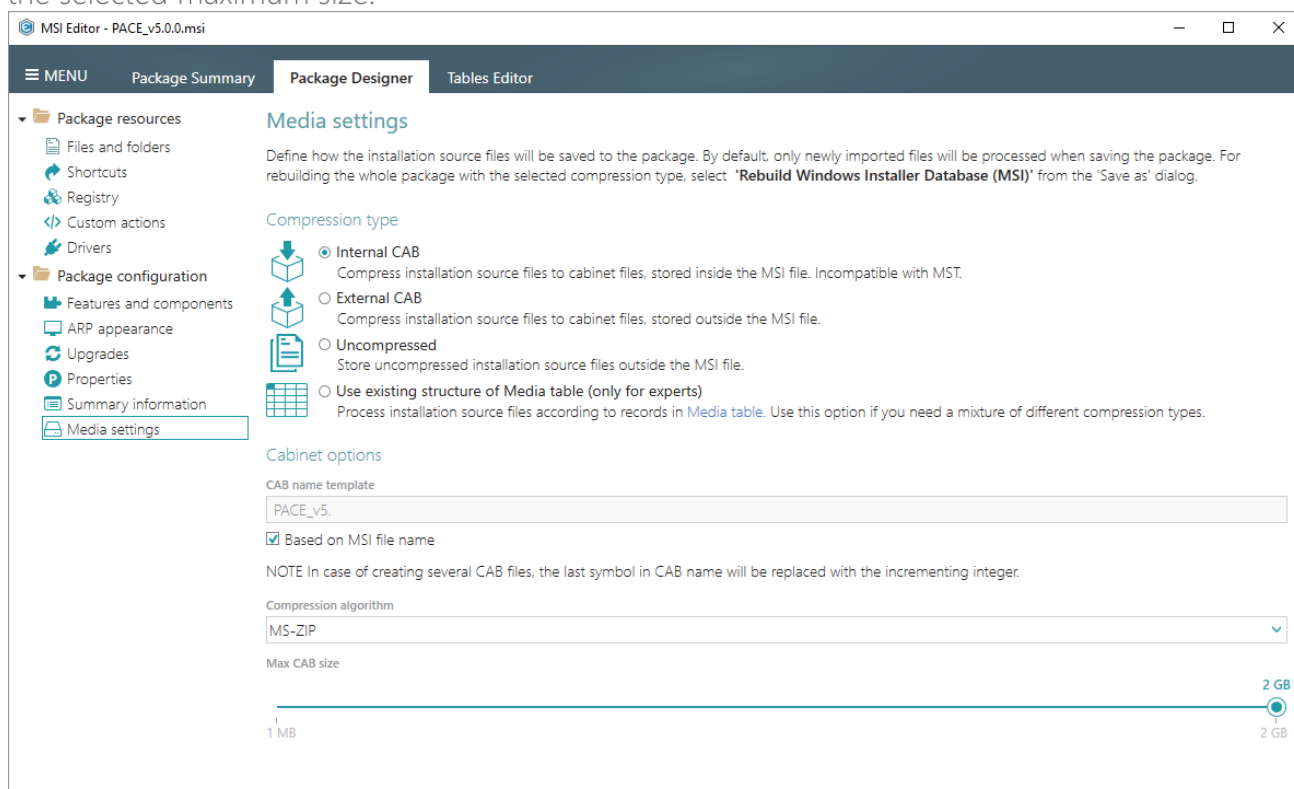
Components with files will be assigned to a feature, selected from the list.

pg. 140

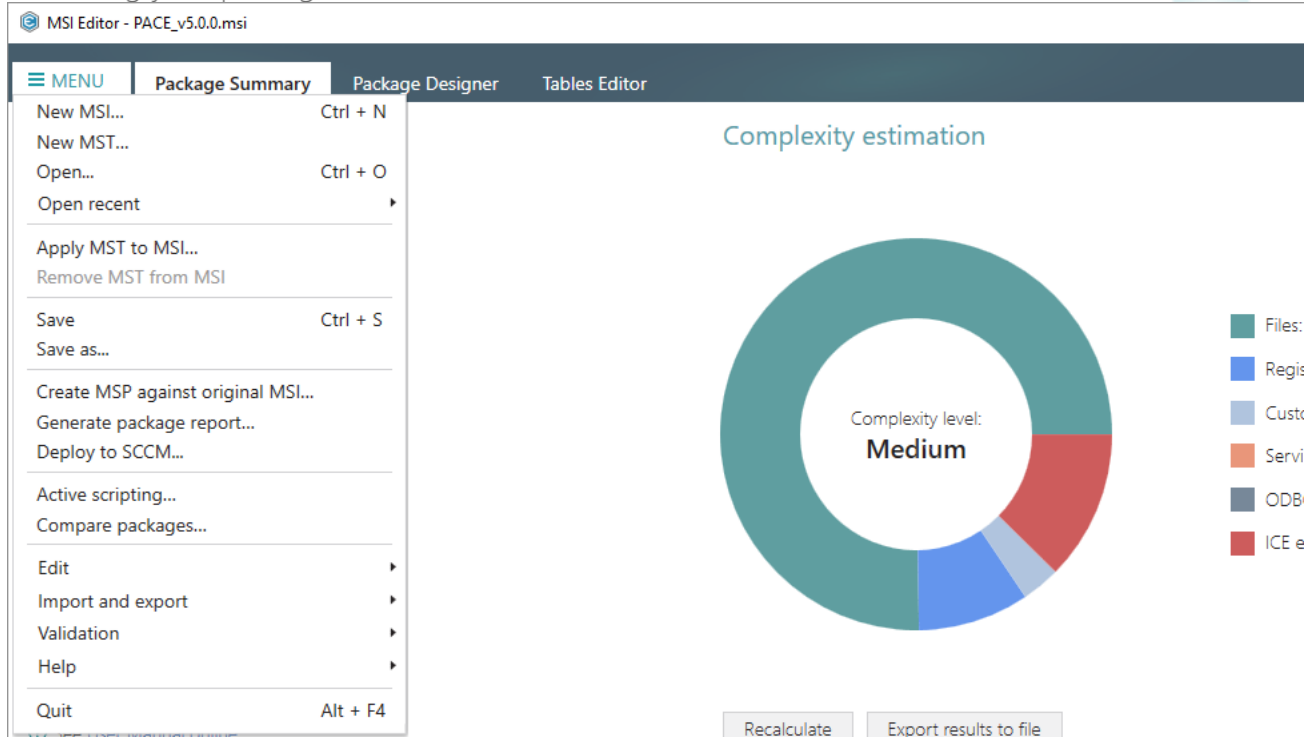
- If the selected files contain COM information, it will be displayed at this step. To include these registry entries to the package, tick the **Import COM information** option and click **Finish**.



- Go to the **Package Designer** -> **Media settings** tab and choose the necessary compression type for the imported files. For the compressed files you can manage cabinet options such as cabinet (CAB) name, compression algorithm and maximum CAB size. Cabinets will be spit by the selected maximum size.



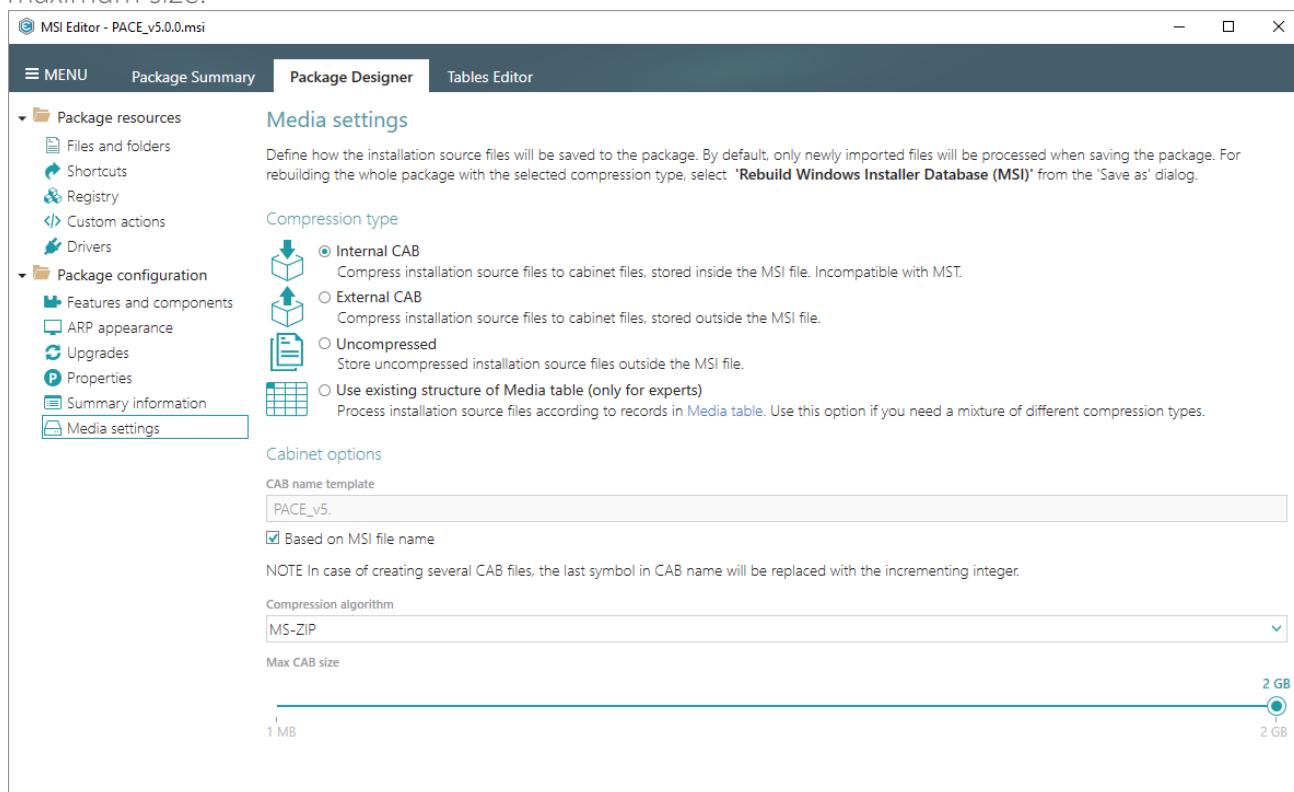
- For saving your package, select Save from the MENU.



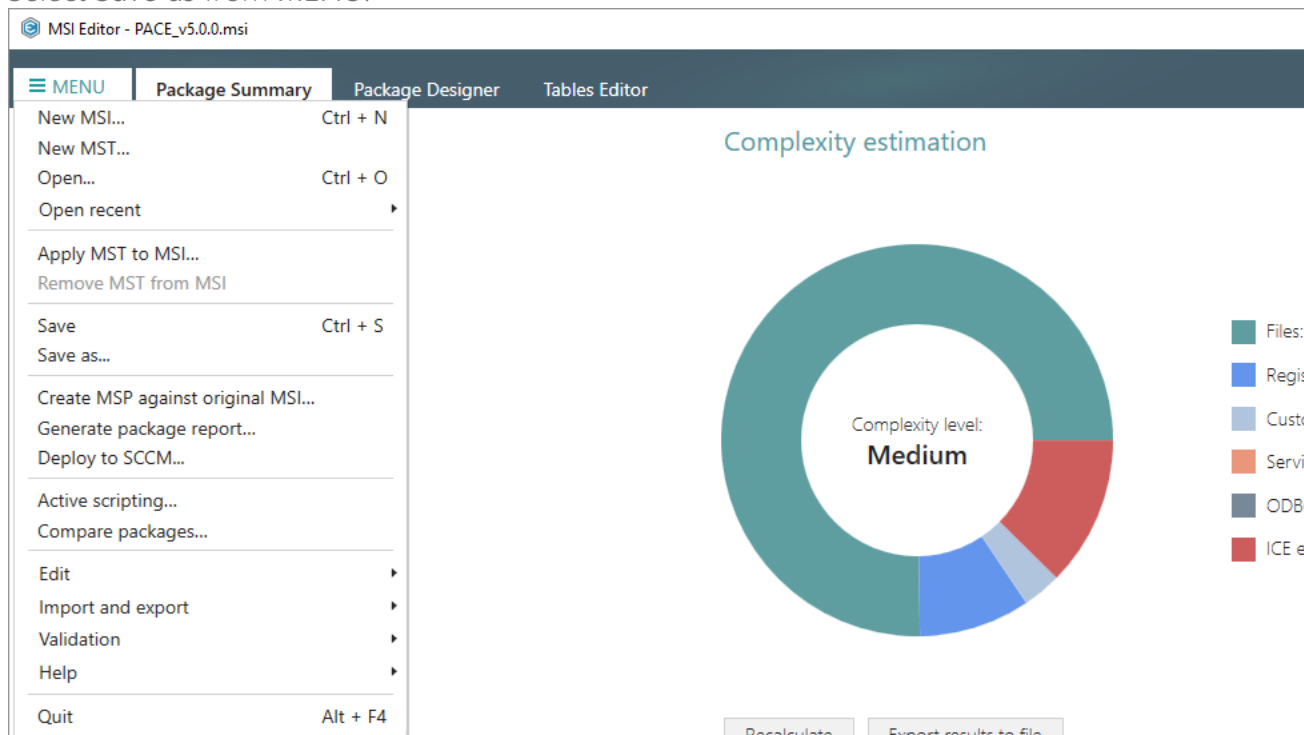
3.7.4.4 Change Compression Type

Change the compression type for all package files by rebuilding the whole package. The rebuild package will be saved as a new separate MSI file.

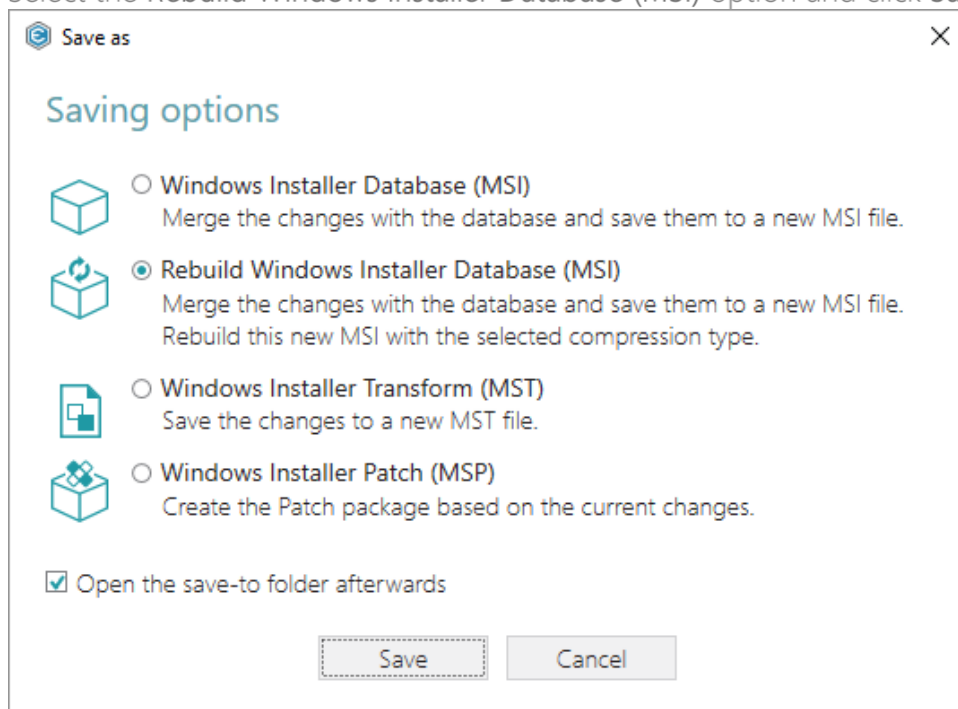
- Go to the **Package Designer** -> **Media settings** tab and select a new compression type for all package files. Also, for compressed files you manage cabinet options such as cabinet (CAB) name, compression algorithm and maximum CAB size. Cabinets will be split by the selected maximum size.



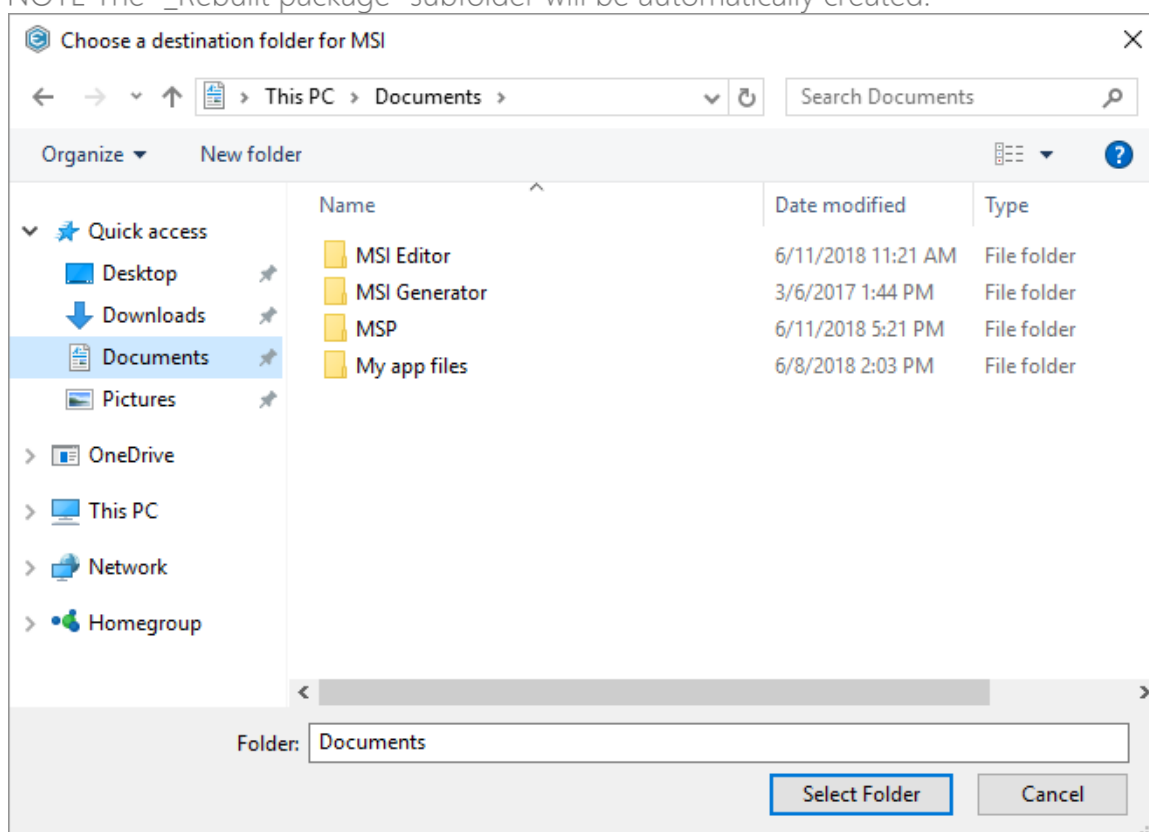
- Select **Save as** from **MENU**.



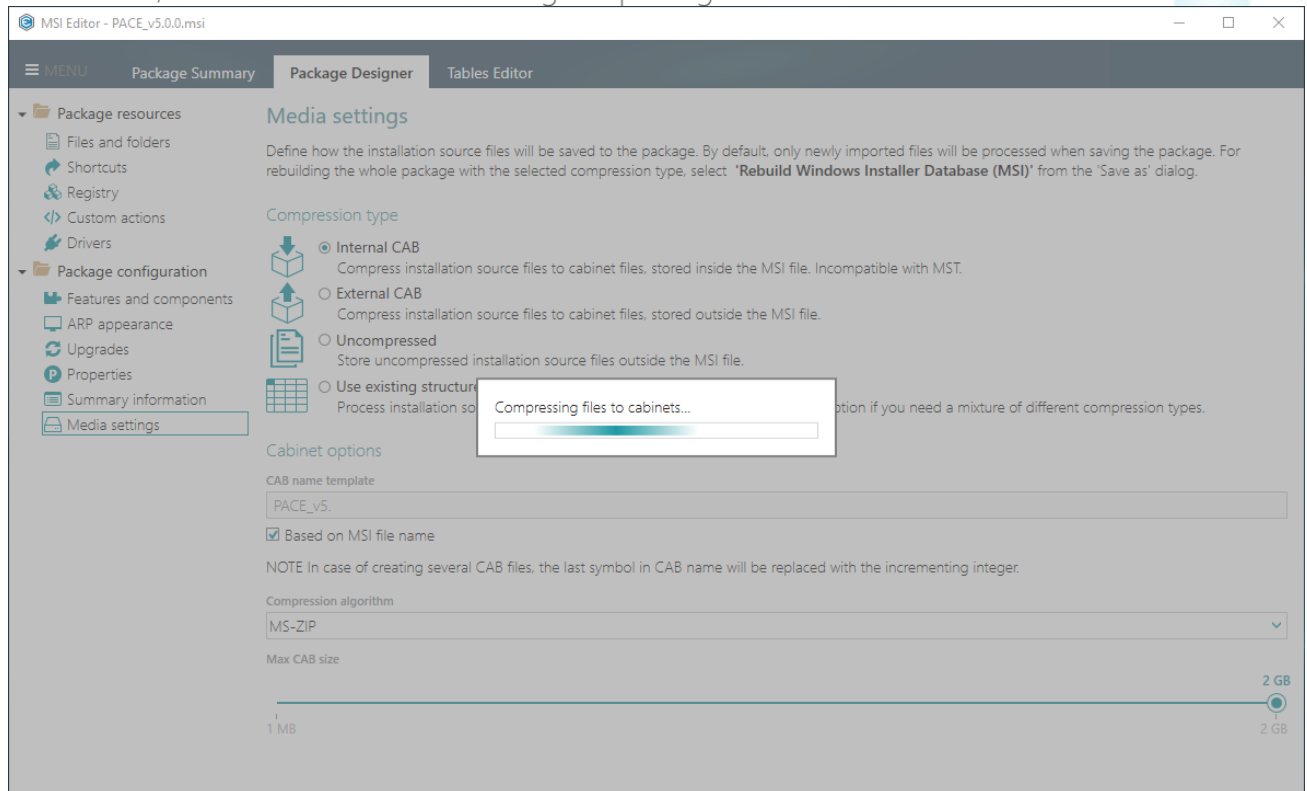
- Select the Rebuild Windows Installer Database (MSI) option and click Save.



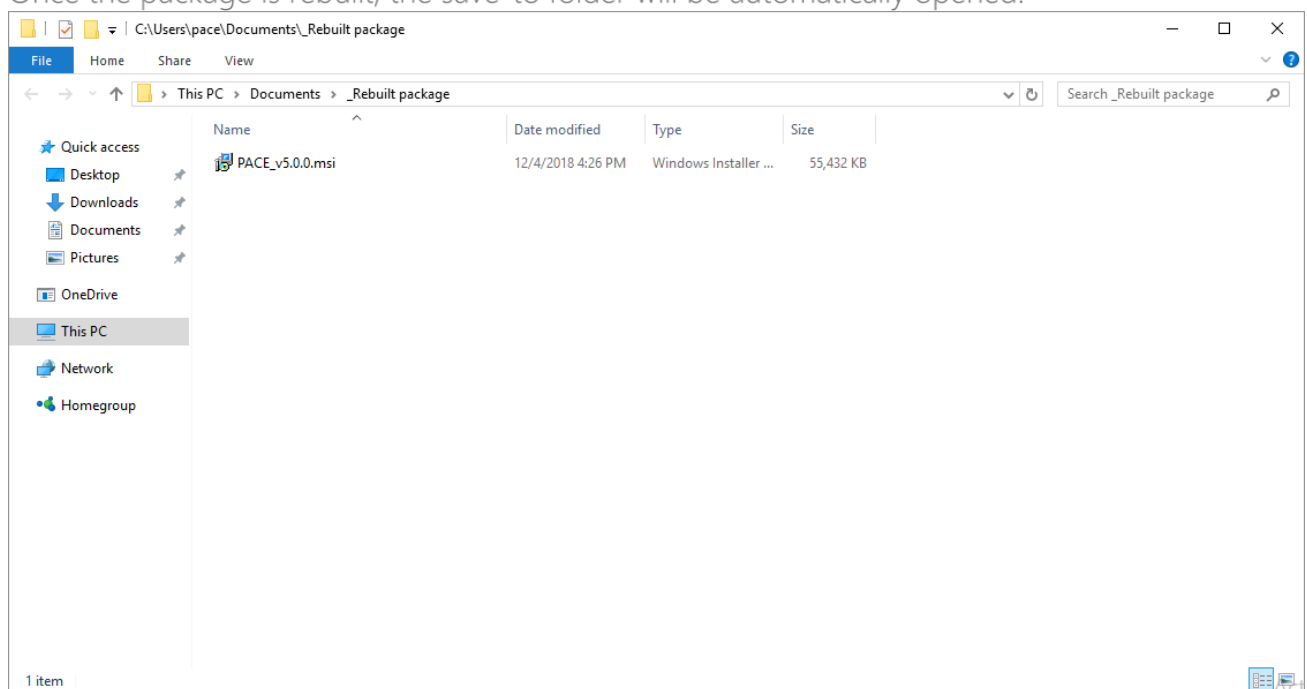
- Choose a folder, to which the rebuilt MSI will be saved, and click Select Folder.
NOTE The "_Rebuilt package" subfolder will be automatically created.



- Wait a little, while MSI Editor is rebuilding the package.



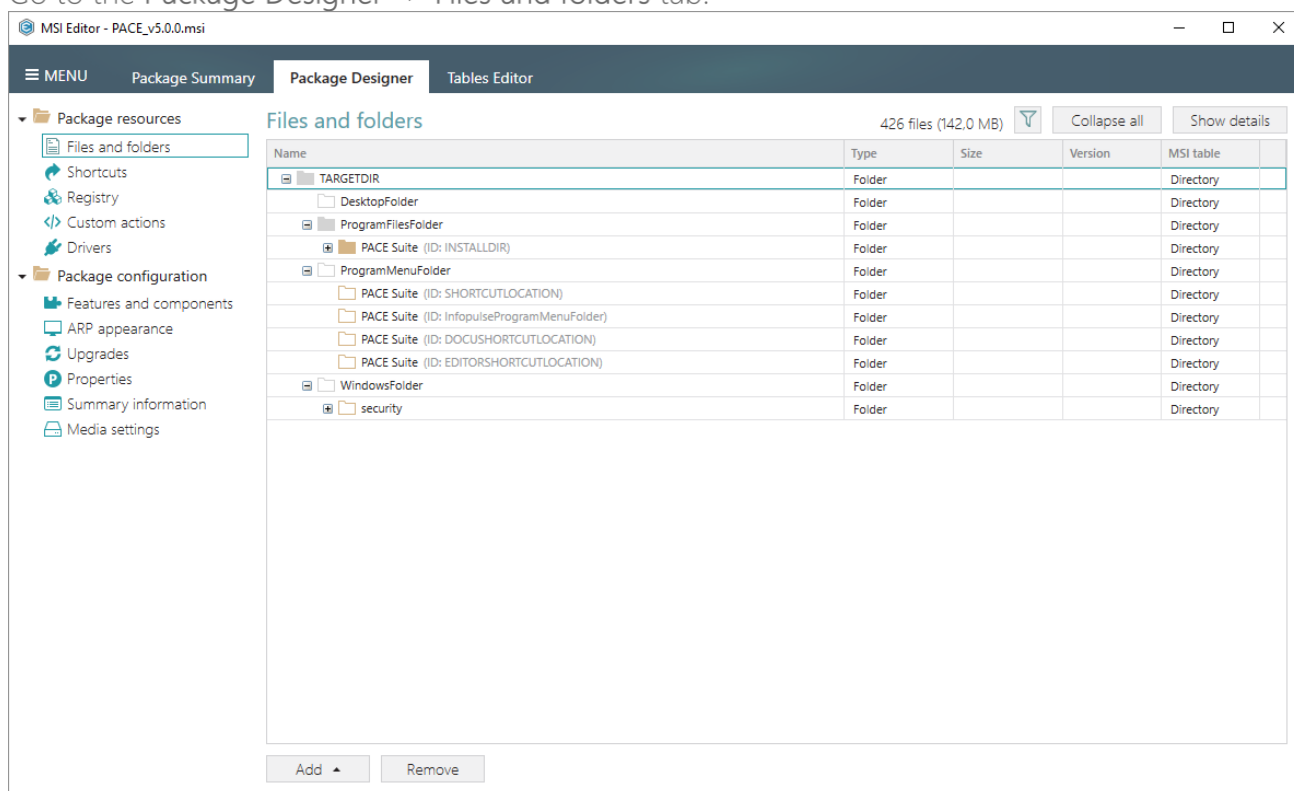
- Once the package is rebuilt, the save-to folder will be automatically opened.



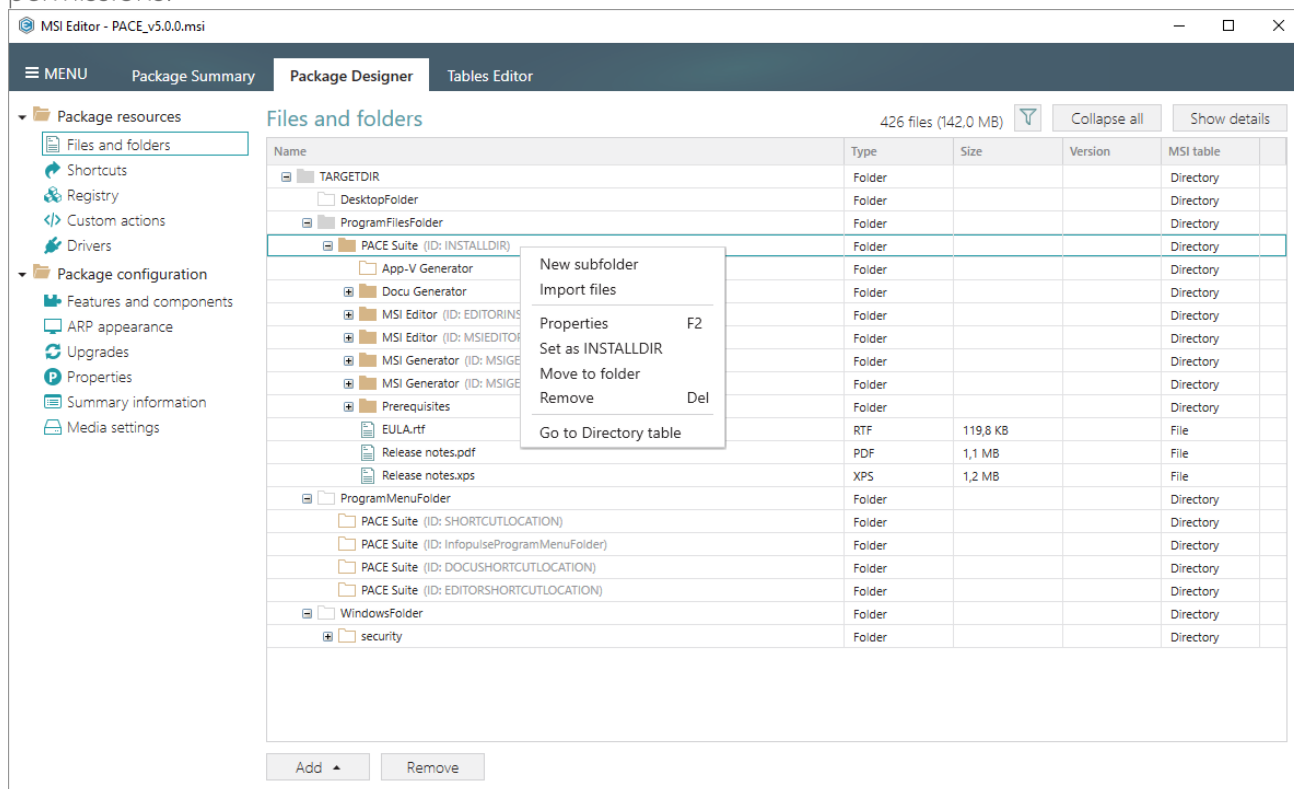
3.7.4.5 Set Permissions

Change permissions for a file or folder.

- Go to the Package Designer -> Files and folders tab.



- Select **Properties** from the context menu of a file or folder, for which you want to set custom permissions.



- Go to the Permissions tab of the opened Properties window.

Properties

General Operations Permissions

☐ Enable permission changes

Group/SID	Access rights	Allow	Deny
	Full control	<input type="checkbox"/>	<input type="checkbox"/>
	Modify	<input type="checkbox"/>	<input type="checkbox"/>
	Read and Execute	<input type="checkbox"/>	<input type="checkbox"/>
	List Folder Contents	<input type="checkbox"/>	<input type="checkbox"/>
	Read	<input type="checkbox"/>	<input type="checkbox"/>
	Write	<input type="checkbox"/>	<input type="checkbox"/>
	Special permissions	<input type="checkbox"/>	<input type="checkbox"/>

Select special permissions

☐ Apply 'Allow' permissions to objects and/or containers within this container only

☐ Apply 'Deny' permissions to objects and/or containers within this container only

☒ Enable inheritance

Propagate inheritable permissions to all subfolders and files

Save Cancel

- Tick the Enable permission changes checkbox and click Add to add a group or SID, for which you want to set permissions.

Properties

General Operations Permissions

☒ Enable permission changes

Group/SID	Access rights	Allow	Deny
	Full control	<input type="checkbox"/>	<input type="checkbox"/>
	Modify	<input type="checkbox"/>	<input type="checkbox"/>
	Read and Execute	<input type="checkbox"/>	<input type="checkbox"/>
	List Folder Contents	<input type="checkbox"/>	<input type="checkbox"/>
	Read	<input type="checkbox"/>	<input type="checkbox"/>
	Write	<input type="checkbox"/>	<input type="checkbox"/>
	Special permissions	<input type="checkbox"/>	<input type="checkbox"/>

Select special permissions

☐ Apply 'Allow' permissions to objects and/or containers within this container only

☐ Apply 'Deny' permissions to objects and/or containers within this container only

☒ Enable inheritance

Propagate inheritable permissions to all subfolders and files

Add Remove Save Cancel

- Select a group from the list or enter SID manually and then click Add.

Add Group or SID

☒ Group

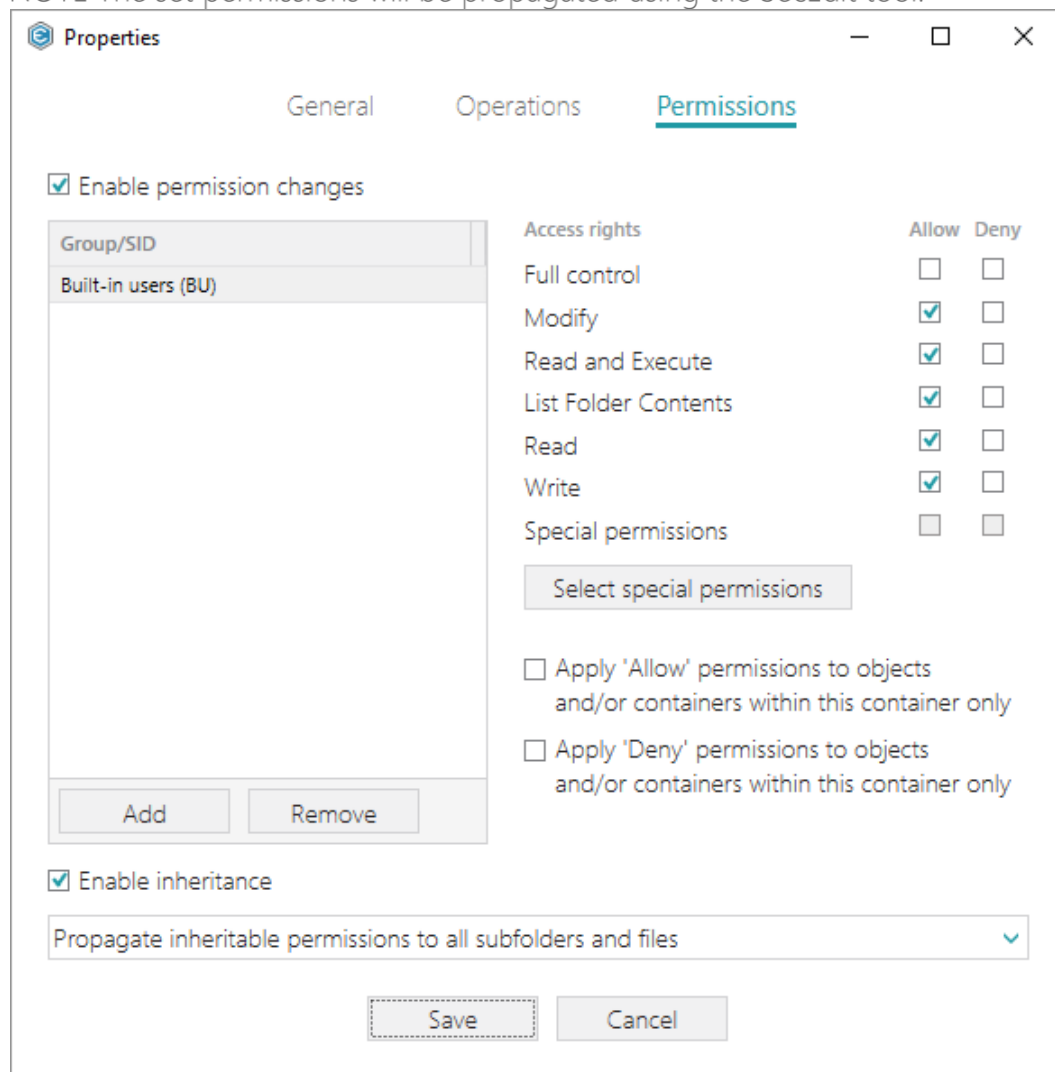
Built-in users (BU)

☐ SID

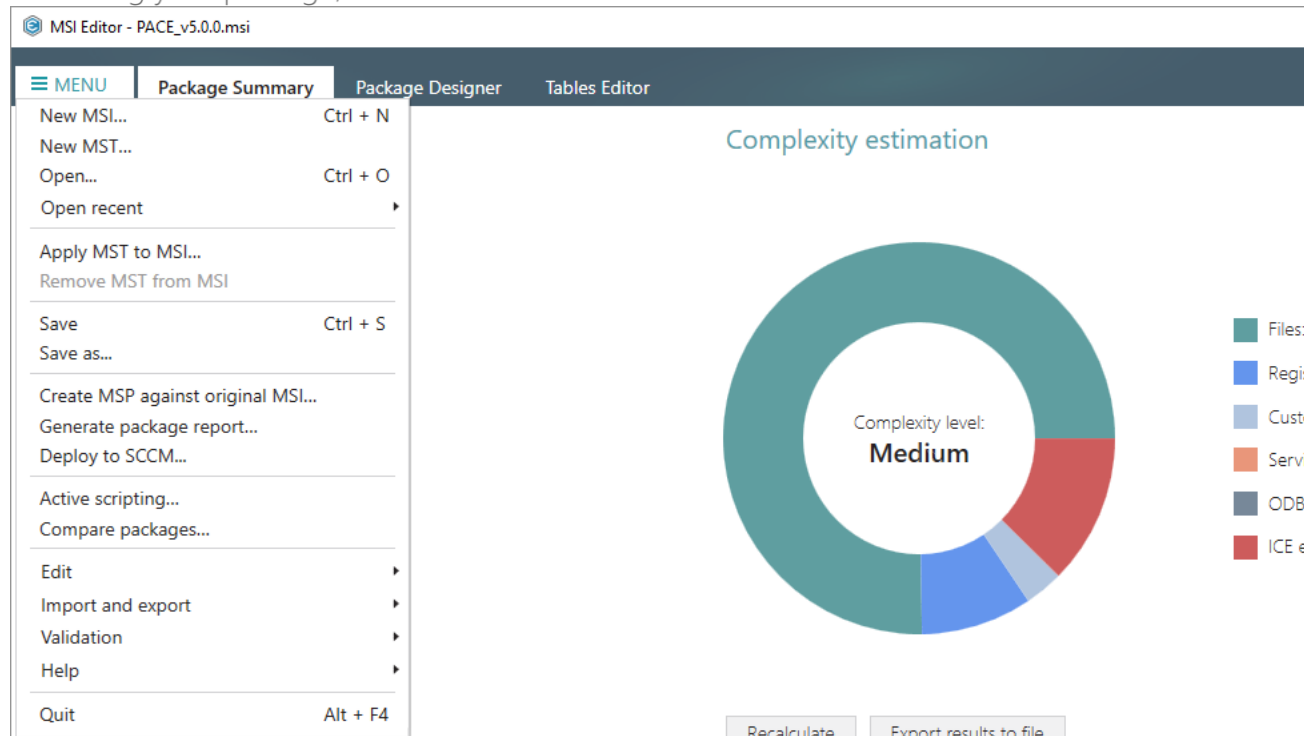
Add Cancel

- Select the necessary access rights for the added group or SID and click Save.

NOTE The set permissions will be propagated using the SecEdit tool.



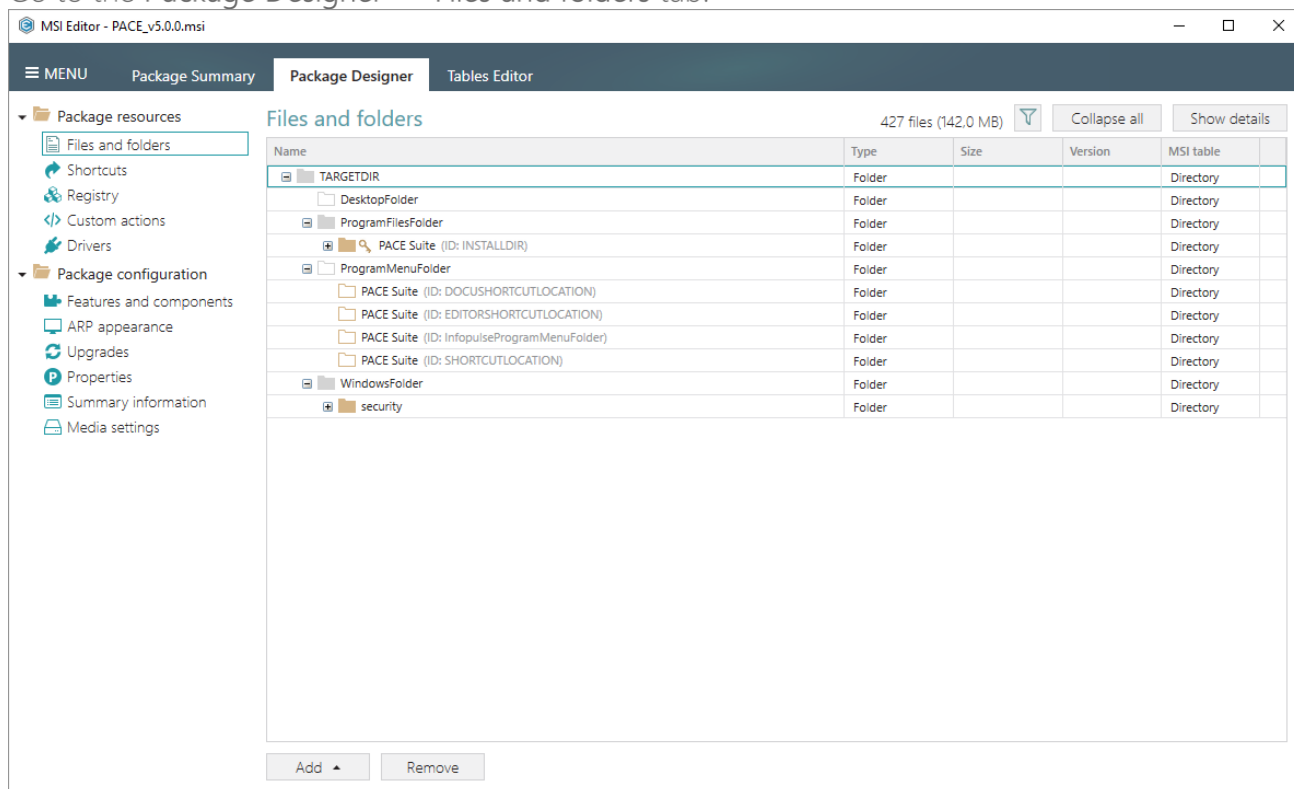
- For saving your package, select Save from the MENU.



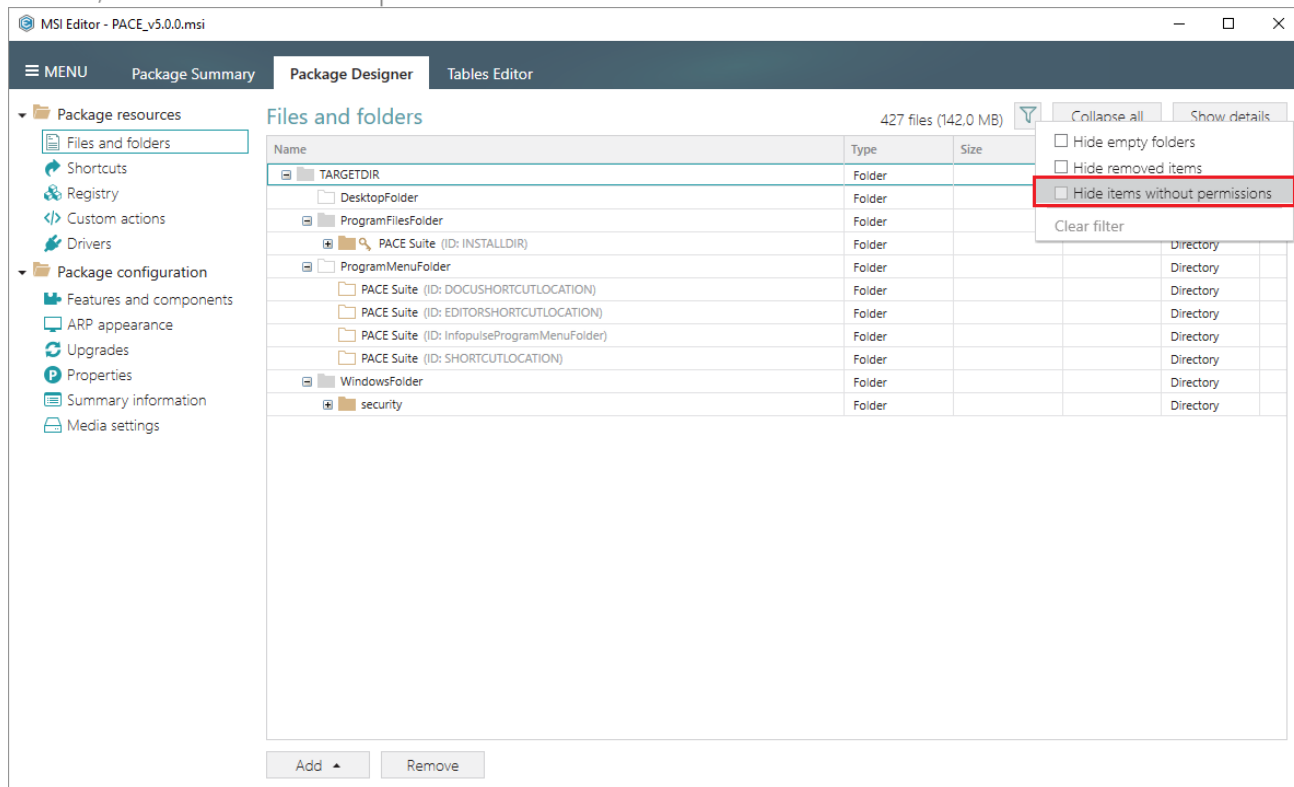
3.7.4.6 Remove Permissions

Remove the captured or manually set custom permissions from a file or folder.

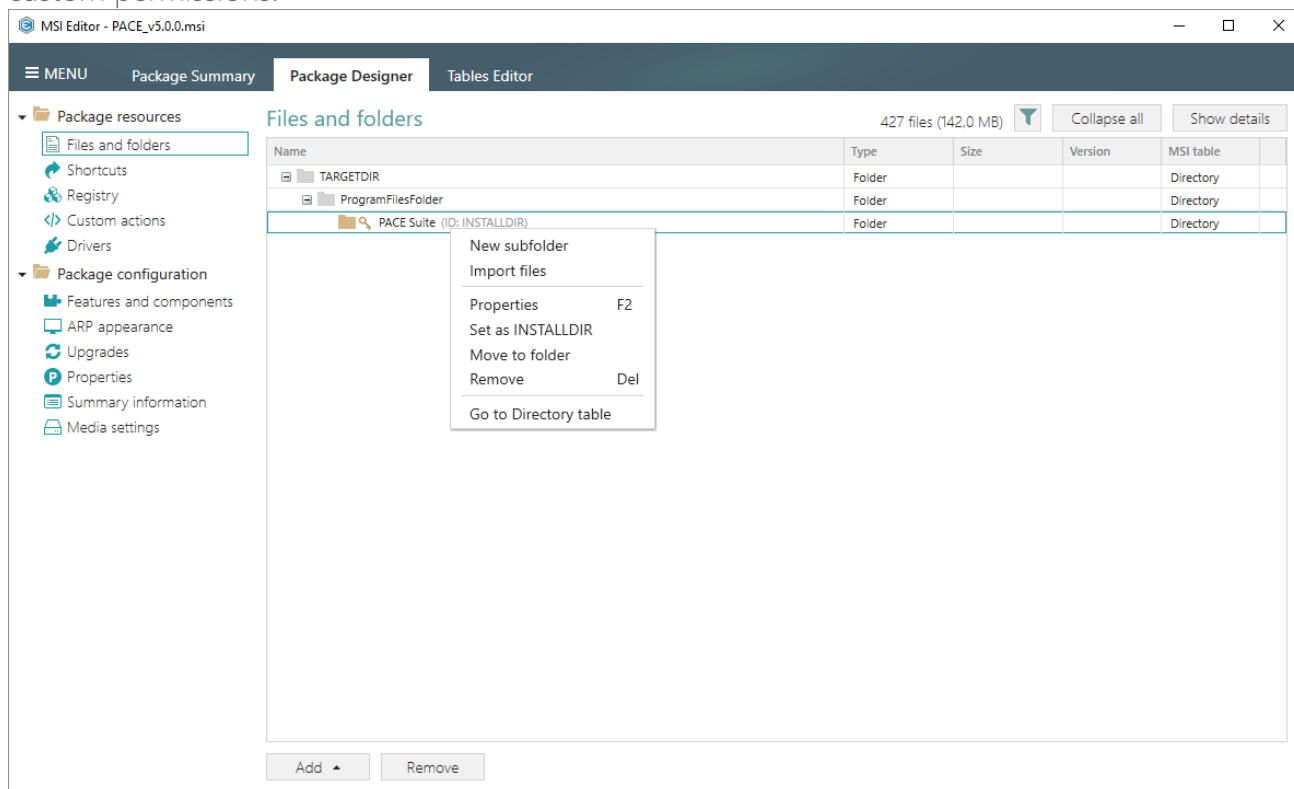
- Go to the Package Designer -> Files and folders tab.



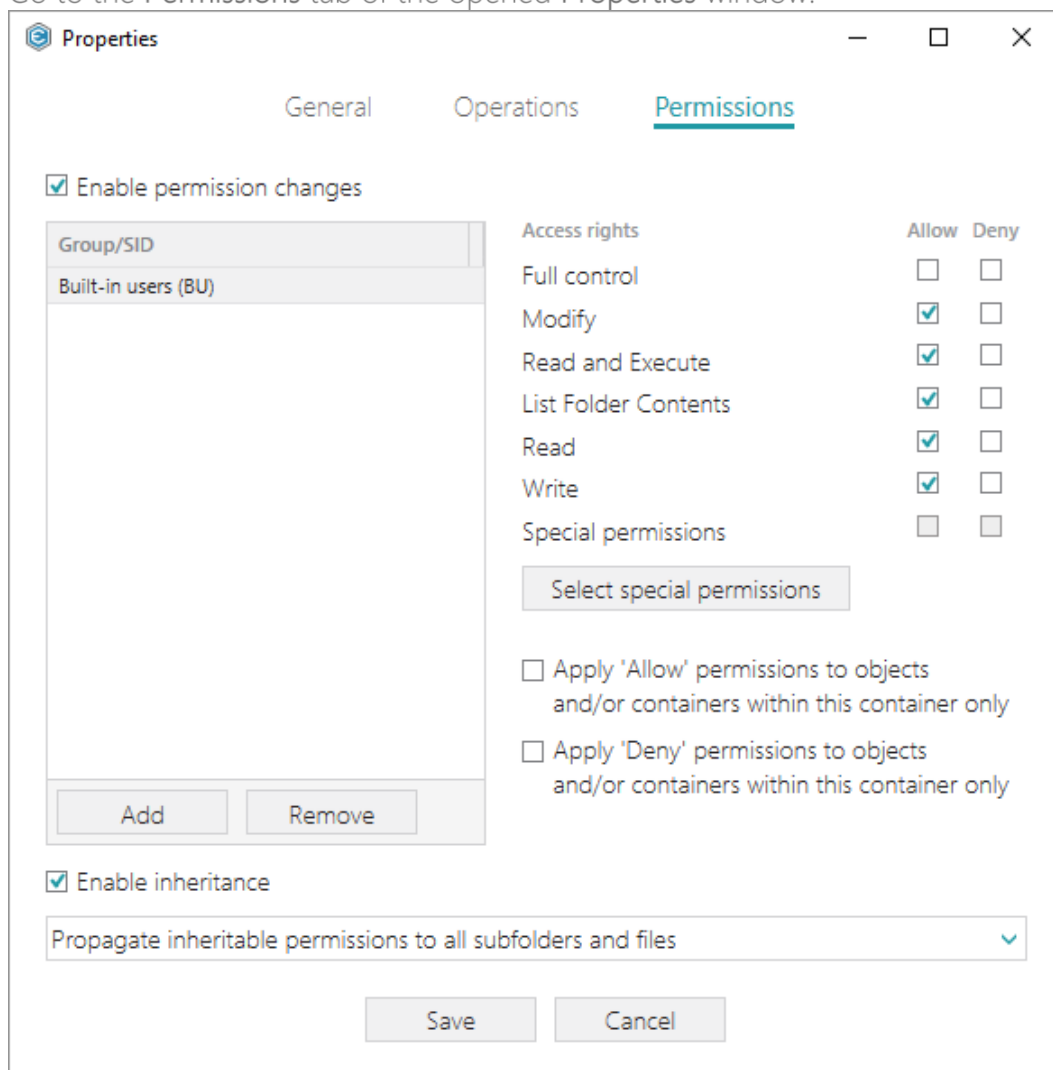
- (Optional step) Apply the Hide items without permissions filter to display only those files and folders, which have custom permissions.



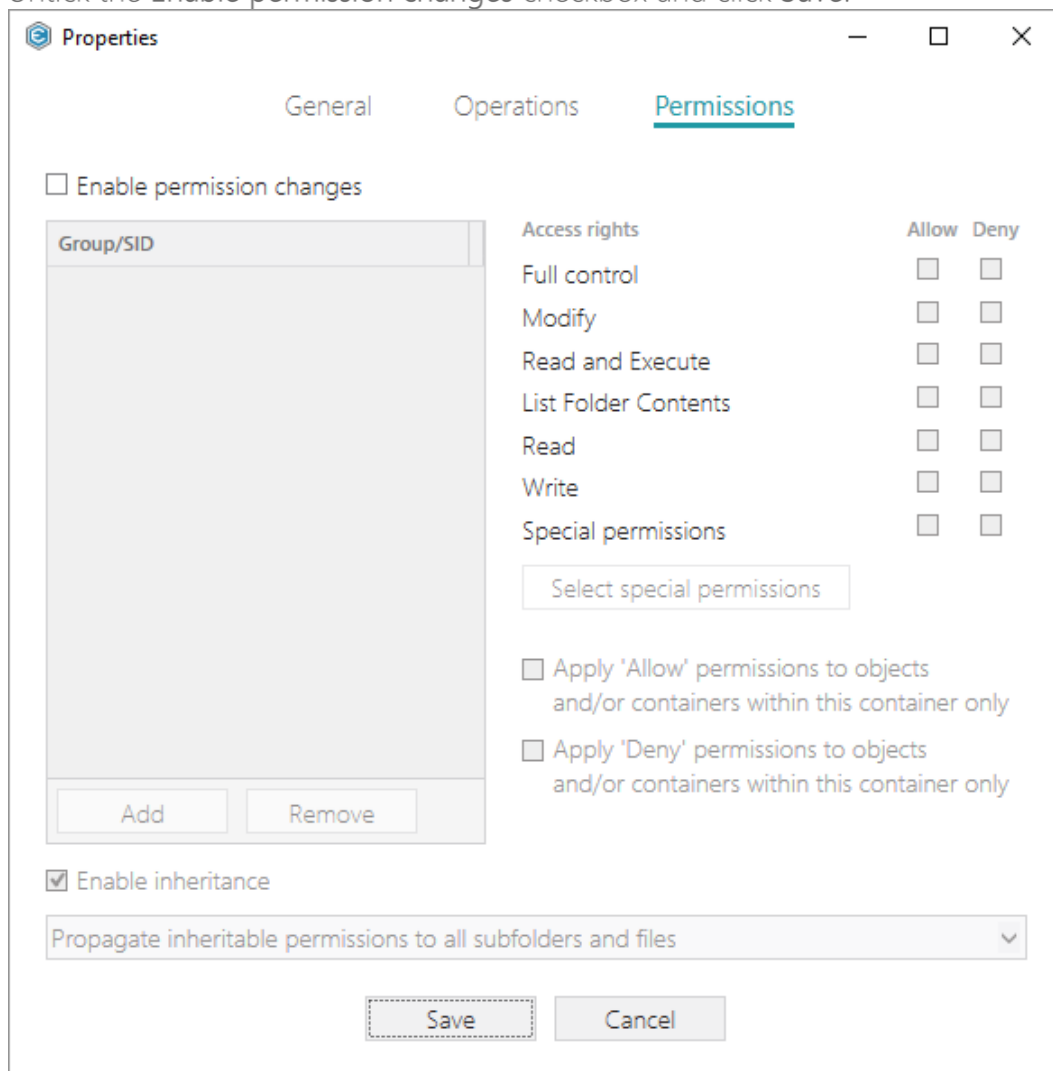
- Select **Properties** from the context menu of a file or folder, for which you want to remove custom permissions.



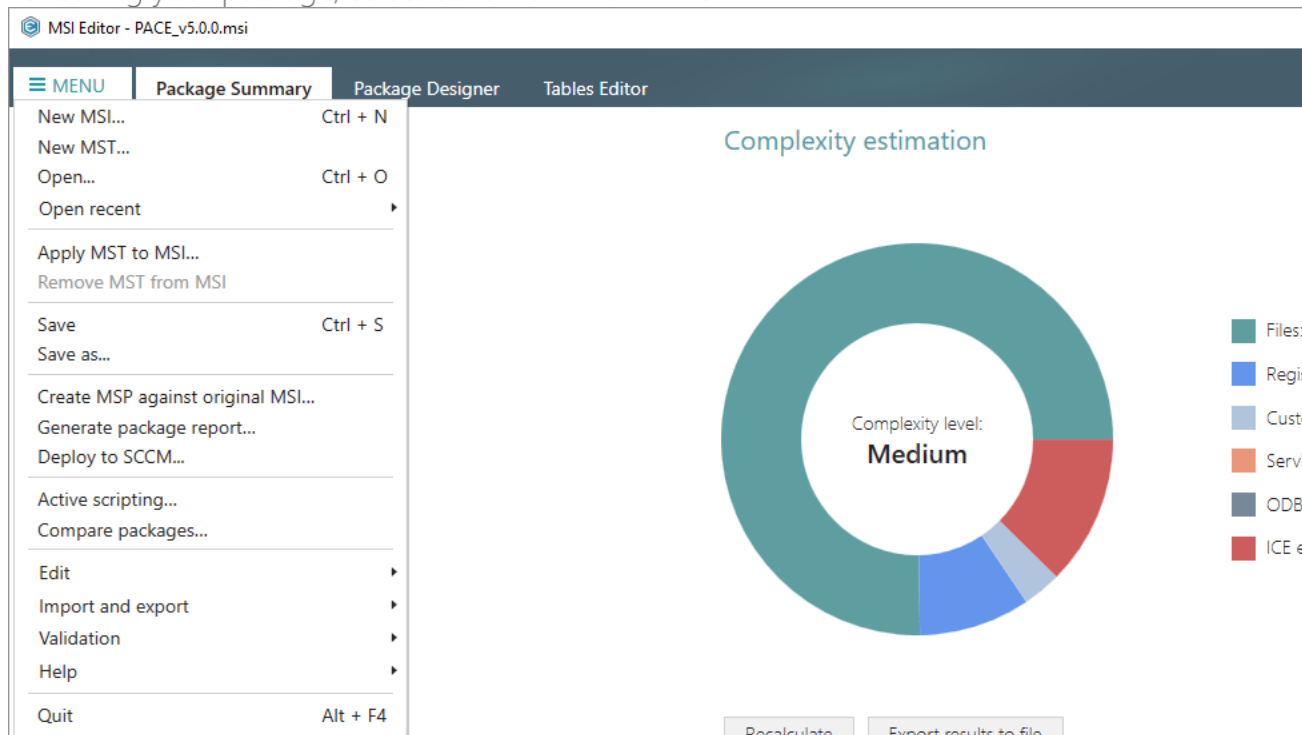
- Go to the Permissions tab of the opened Properties window.



- Untick the Enable permission changes checkbox and click Save.



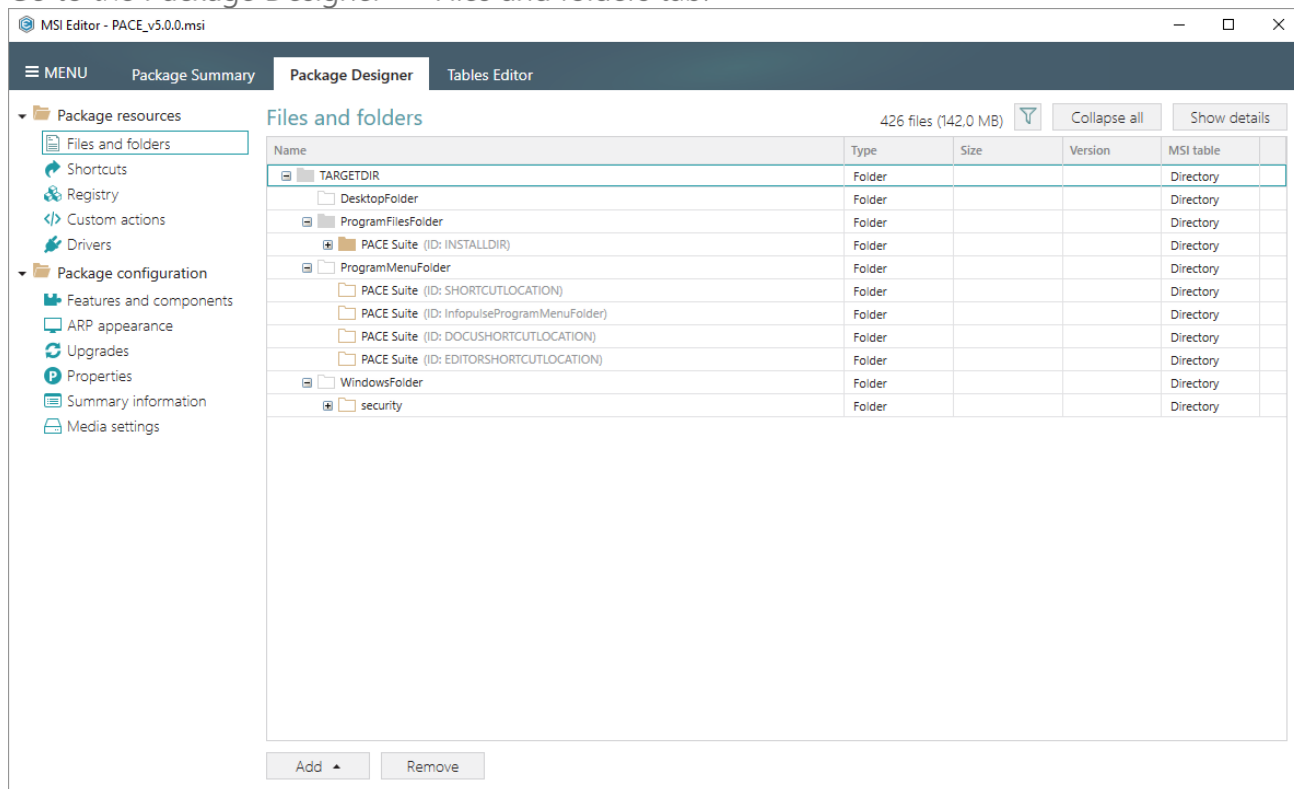
- For saving your package, select Save from the MENU.



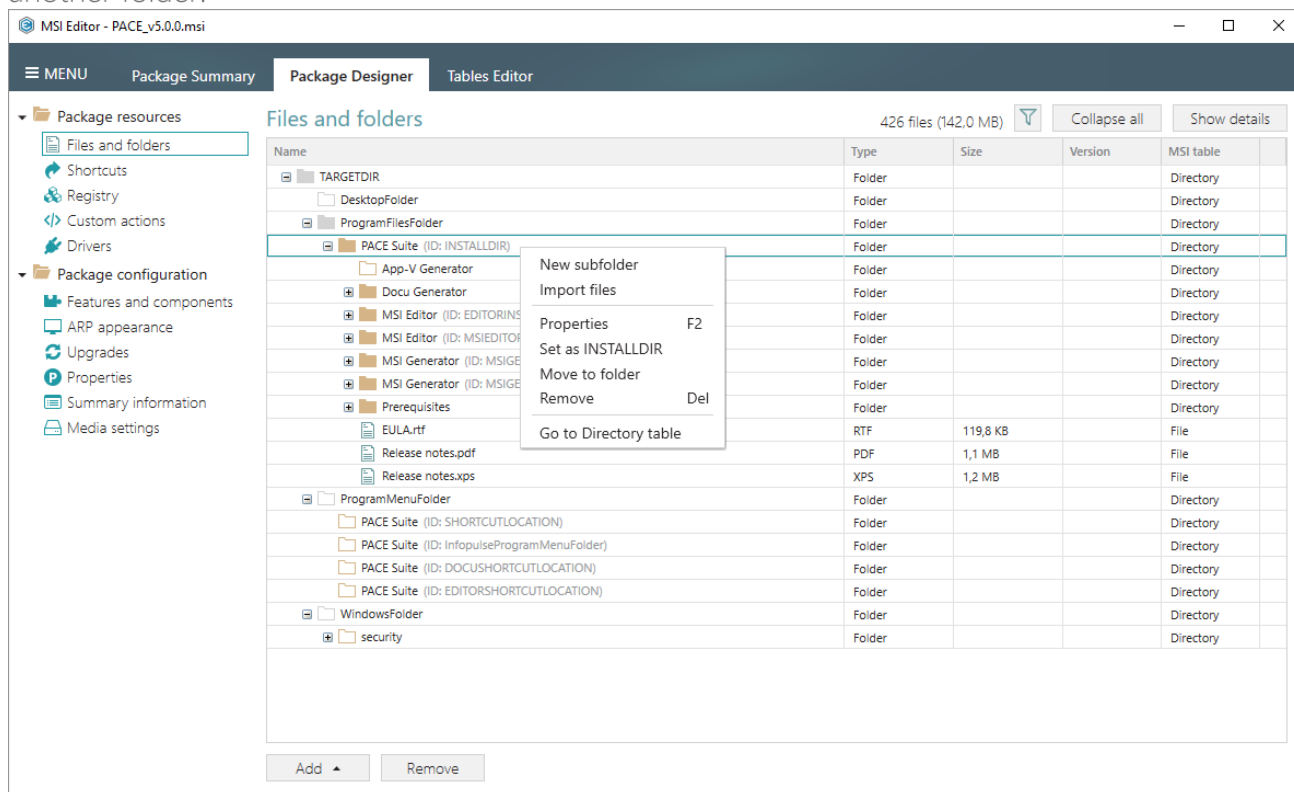
3.7.4.7 Move Files, Folders

Move a file or a folder from one folder to another. Note that moving a file of the multi-file component will result in creating a new individual component for the moved file.

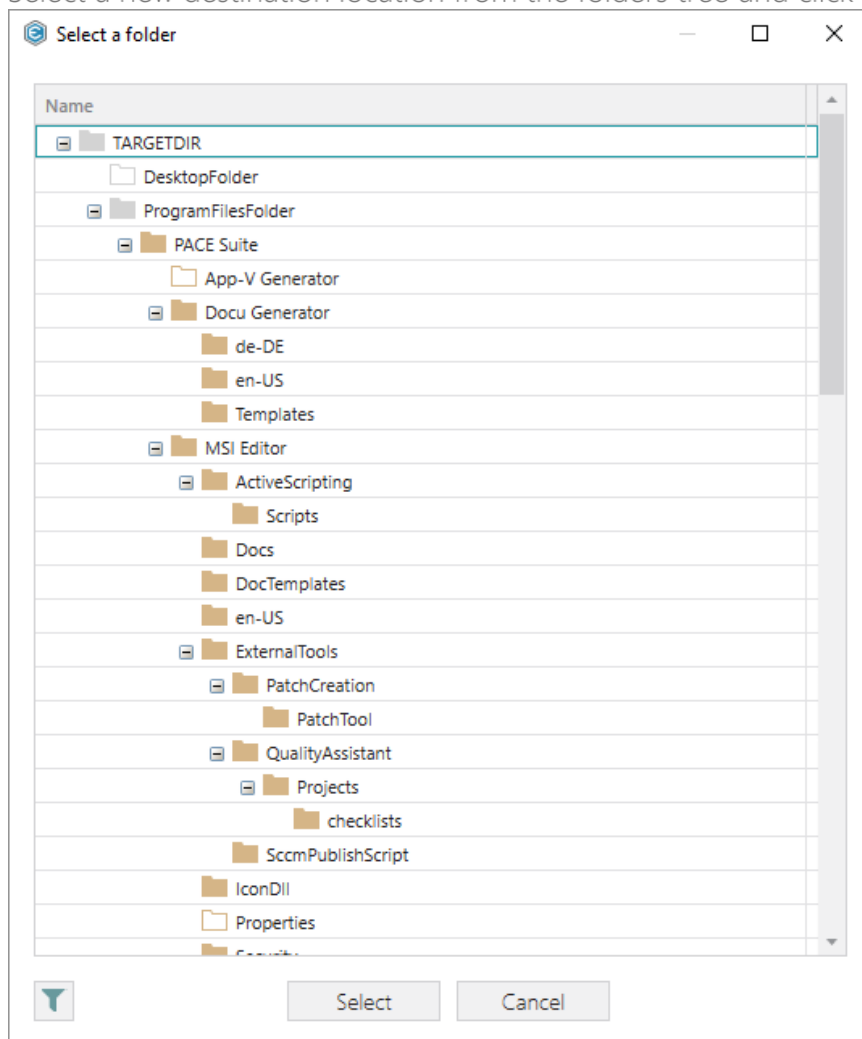
- Go to the Package Designer -> Files and folders tab.



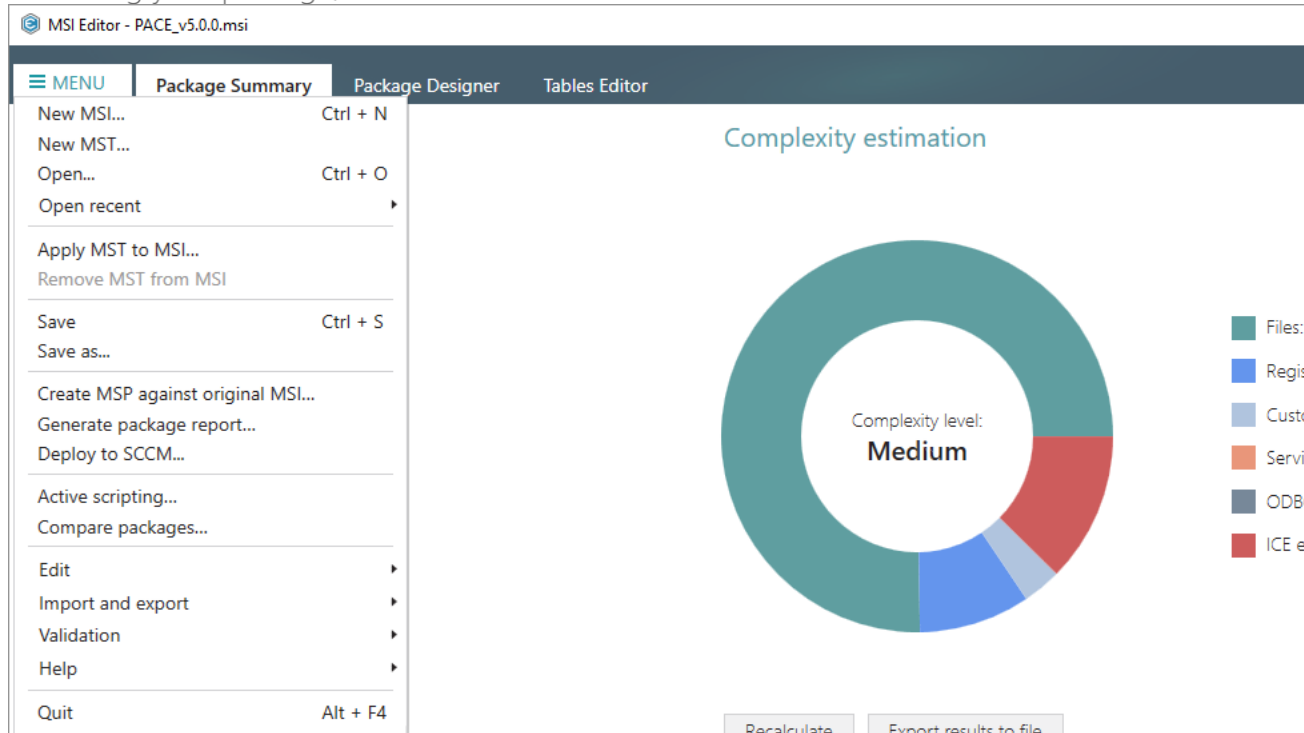
- Select Move to folder from the context menu of a file or folder, which you want to move to another folder.



- Select a new destination location from the folders tree and click Select.



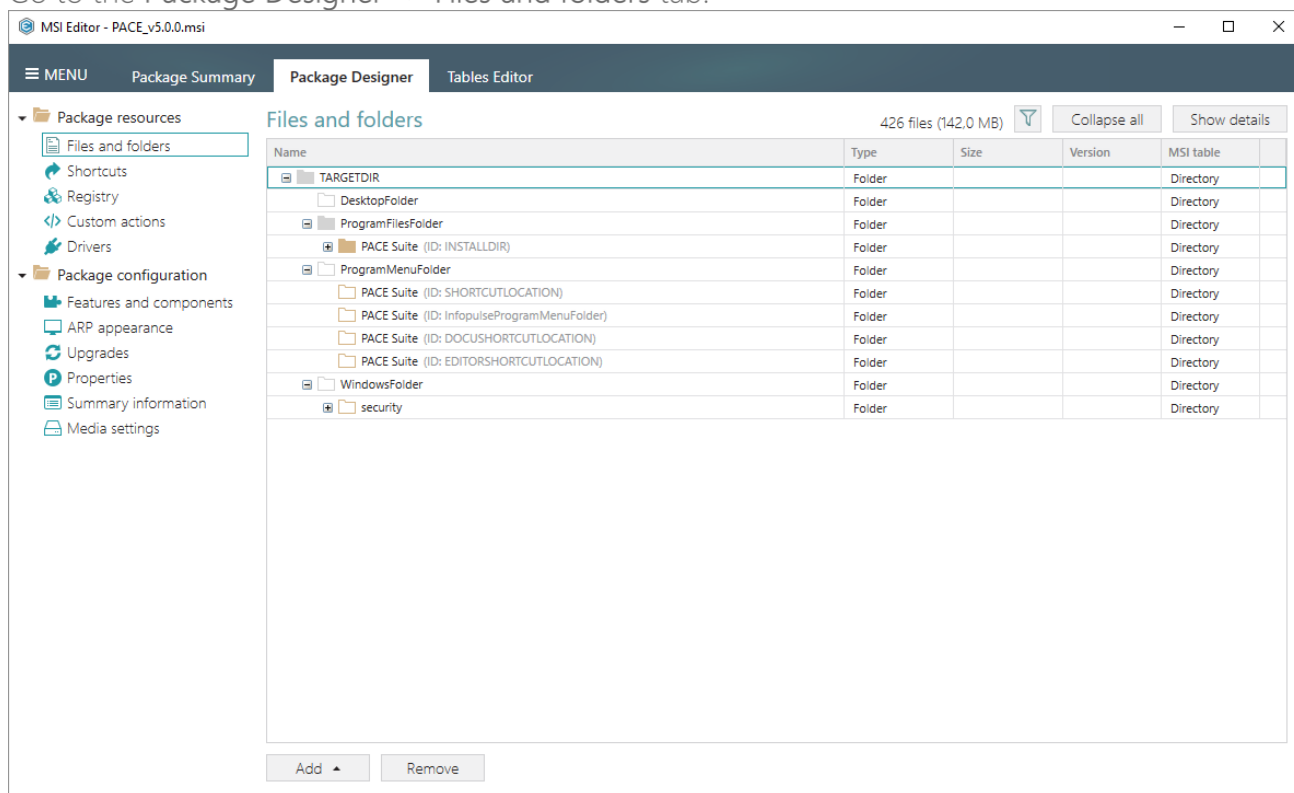
- For saving your package, select Save from the MENU.



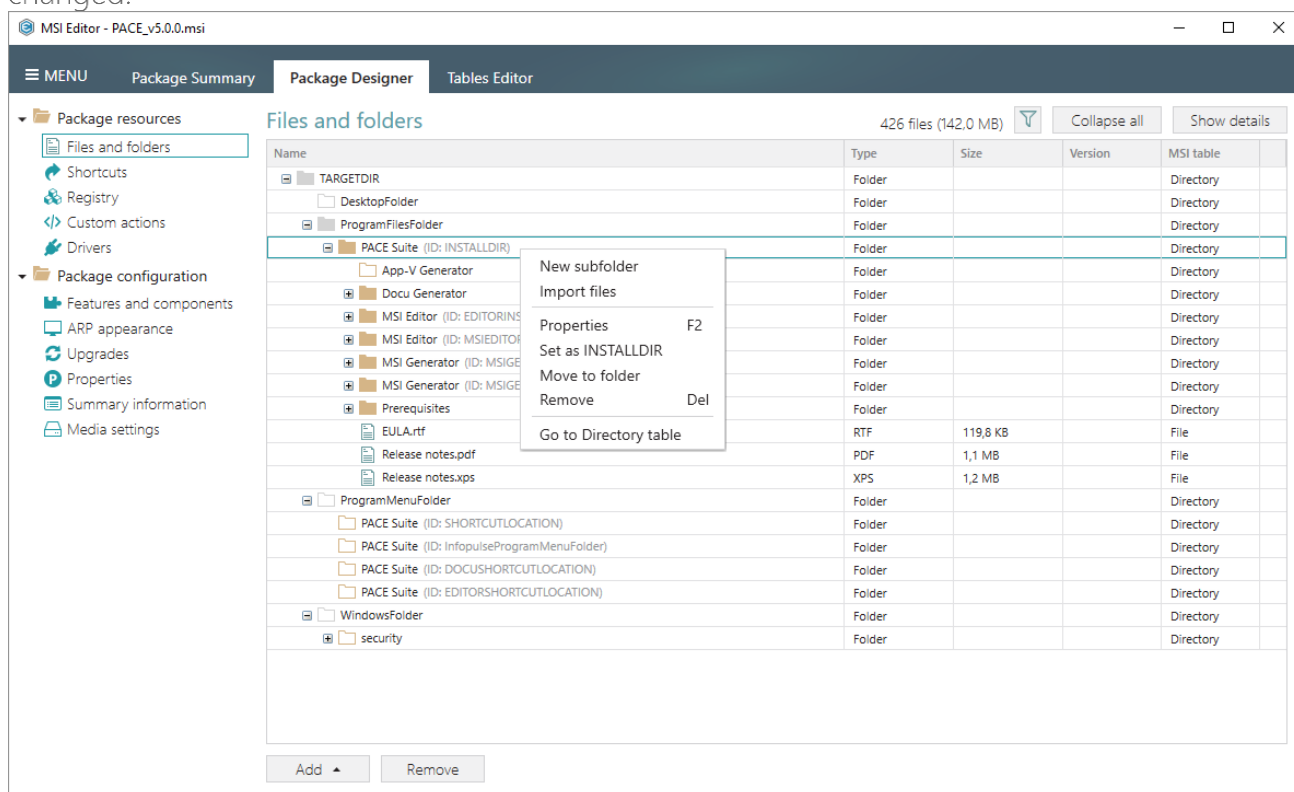
3.7.4.8 Set INSTALLDIR

Set a subfolder of the package as the INSTALLDIR. This means that an identifier of the selected folder will be changed to the 'INSTALLDIR' value. Usually, the INSTALLDIR property represents the main product installation folder, and you can re-define this path via the command line or a Custom Action.

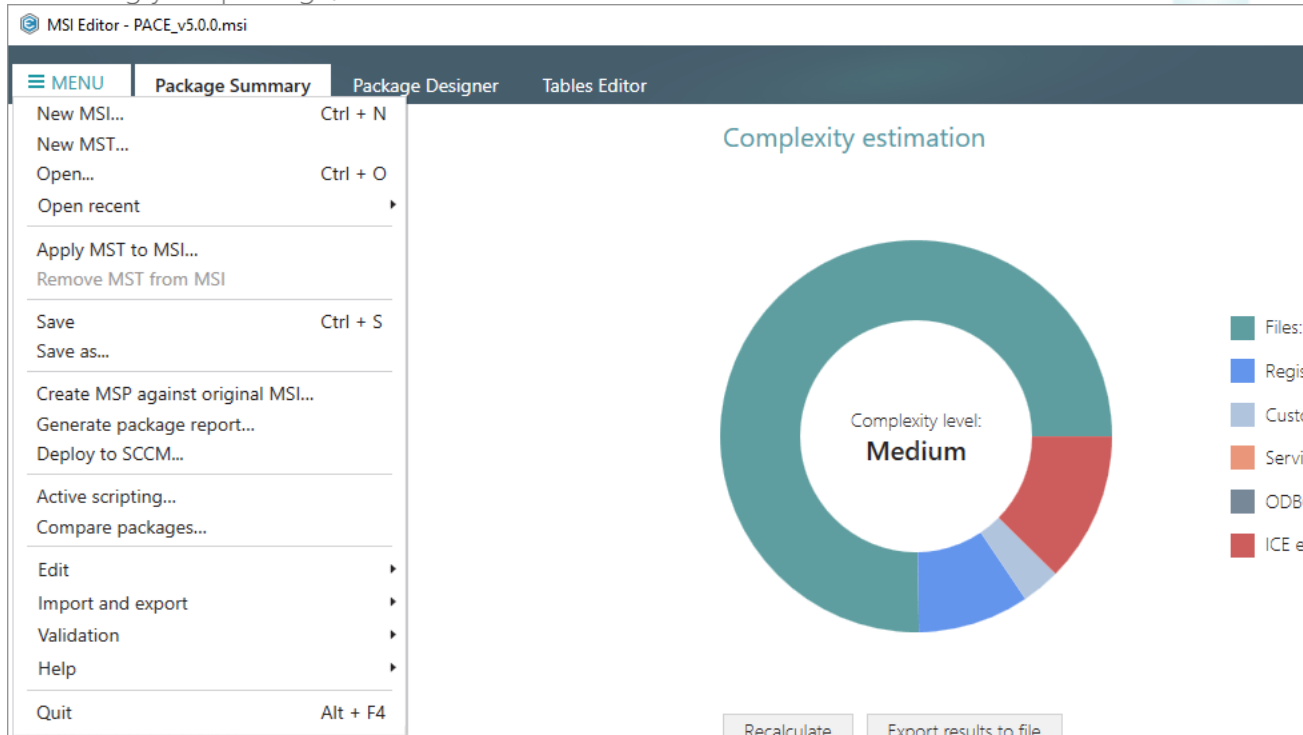
- Go to the Package Designer -> Files and folders tab.



- Select Set as INSTALLDIR from the context menu of a folder, identifier of which you want to change to 'INSTALLDIR'. NOTE Identifiers of system folders are fixed and could be not changed.



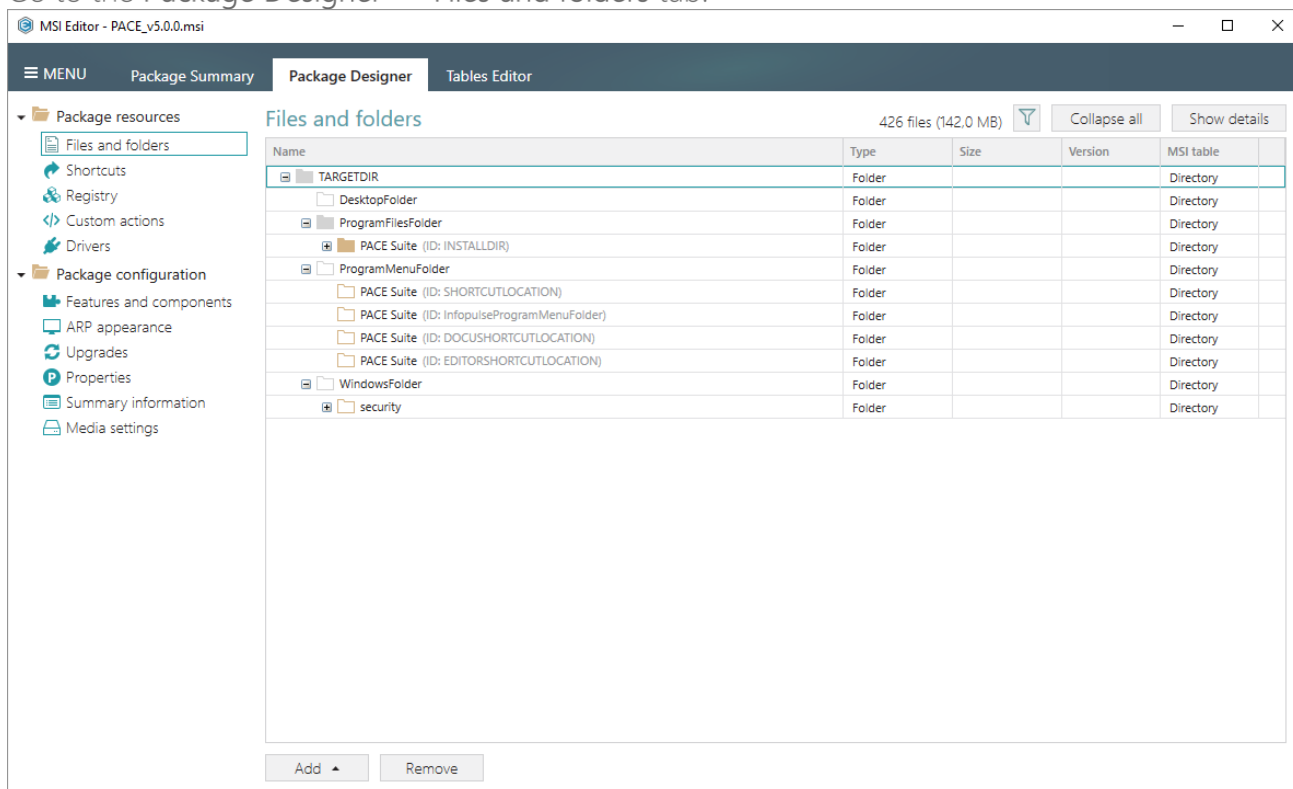
- For saving your package, select Save from the MENU.



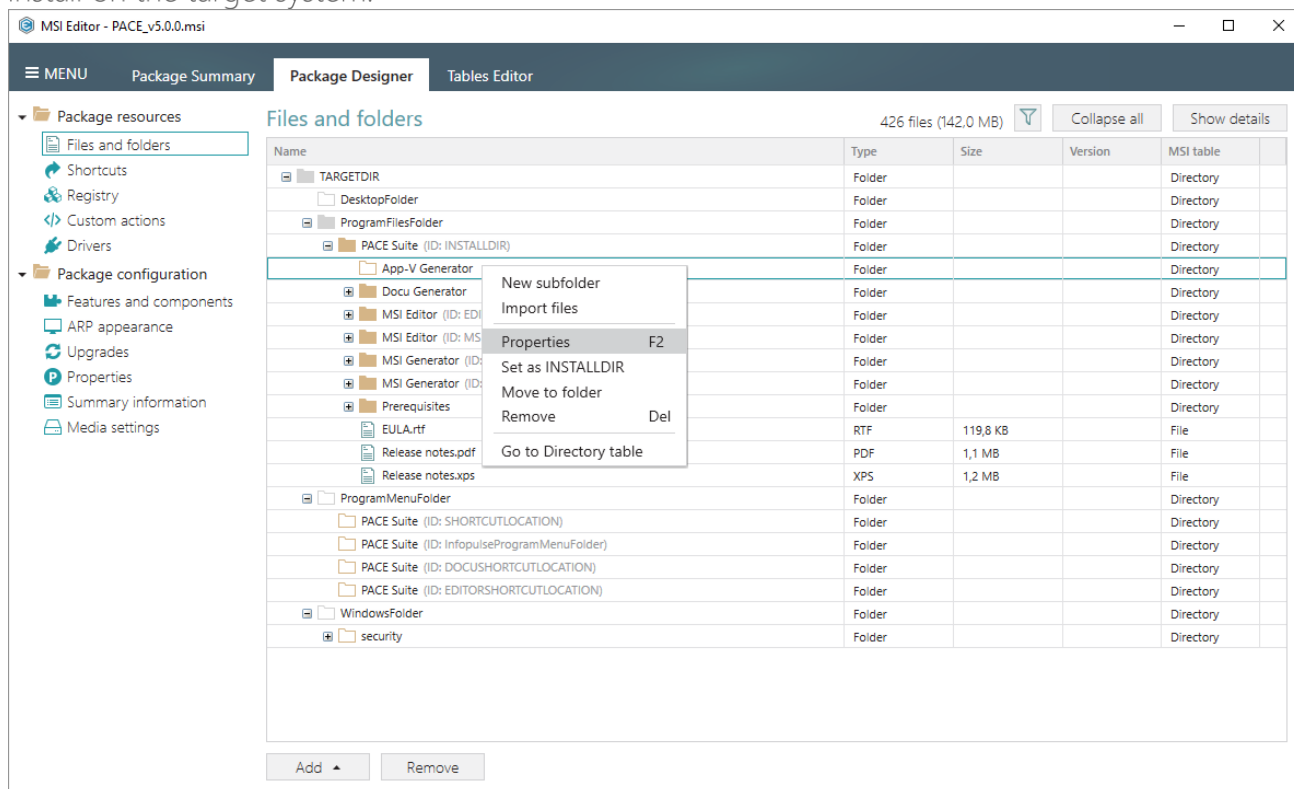
3.7.4.9 Control Empty Folder Creation

Force the empty folder creation on install. By default, Windows Installer creates only folders, which contain files.

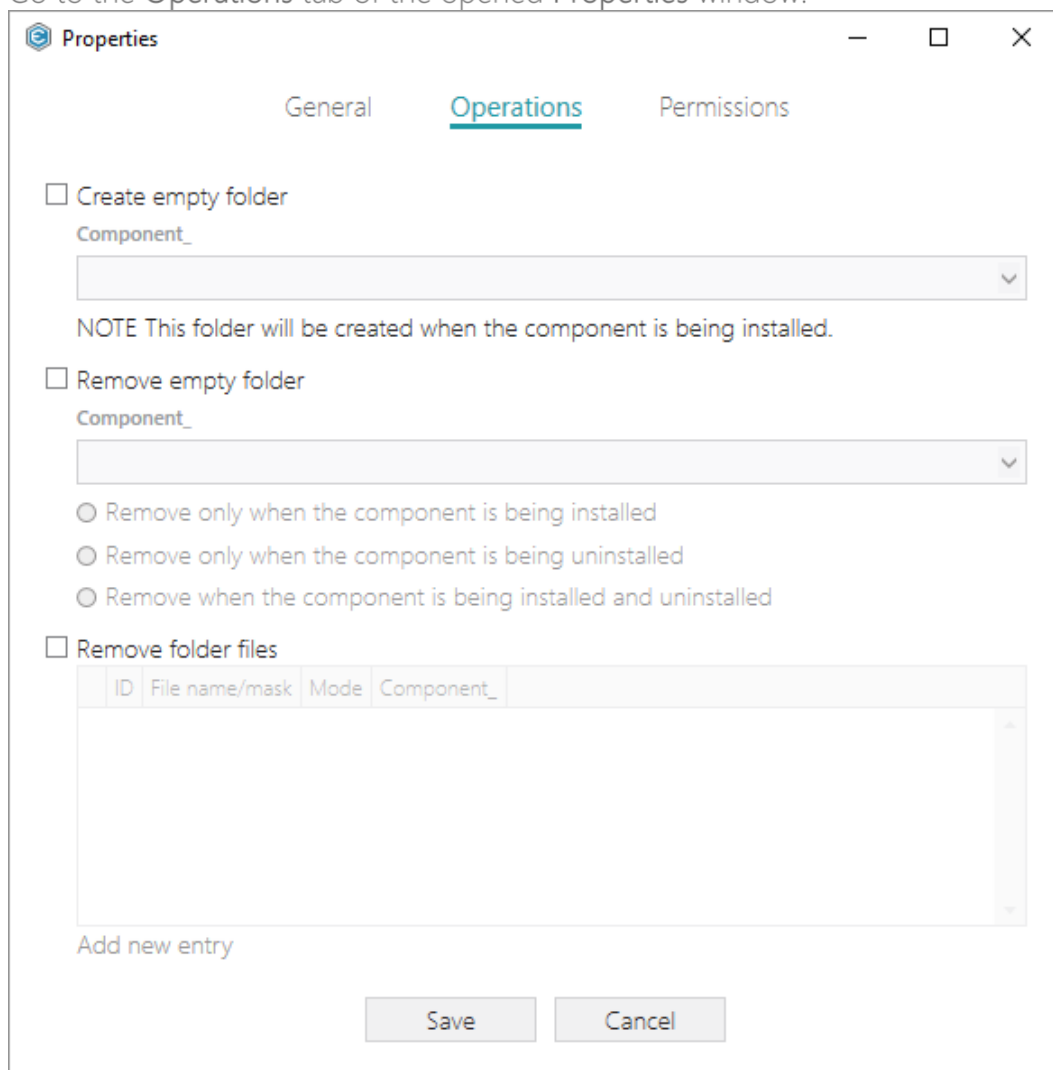
- Go to the Package Designer -> Files and folders tab.



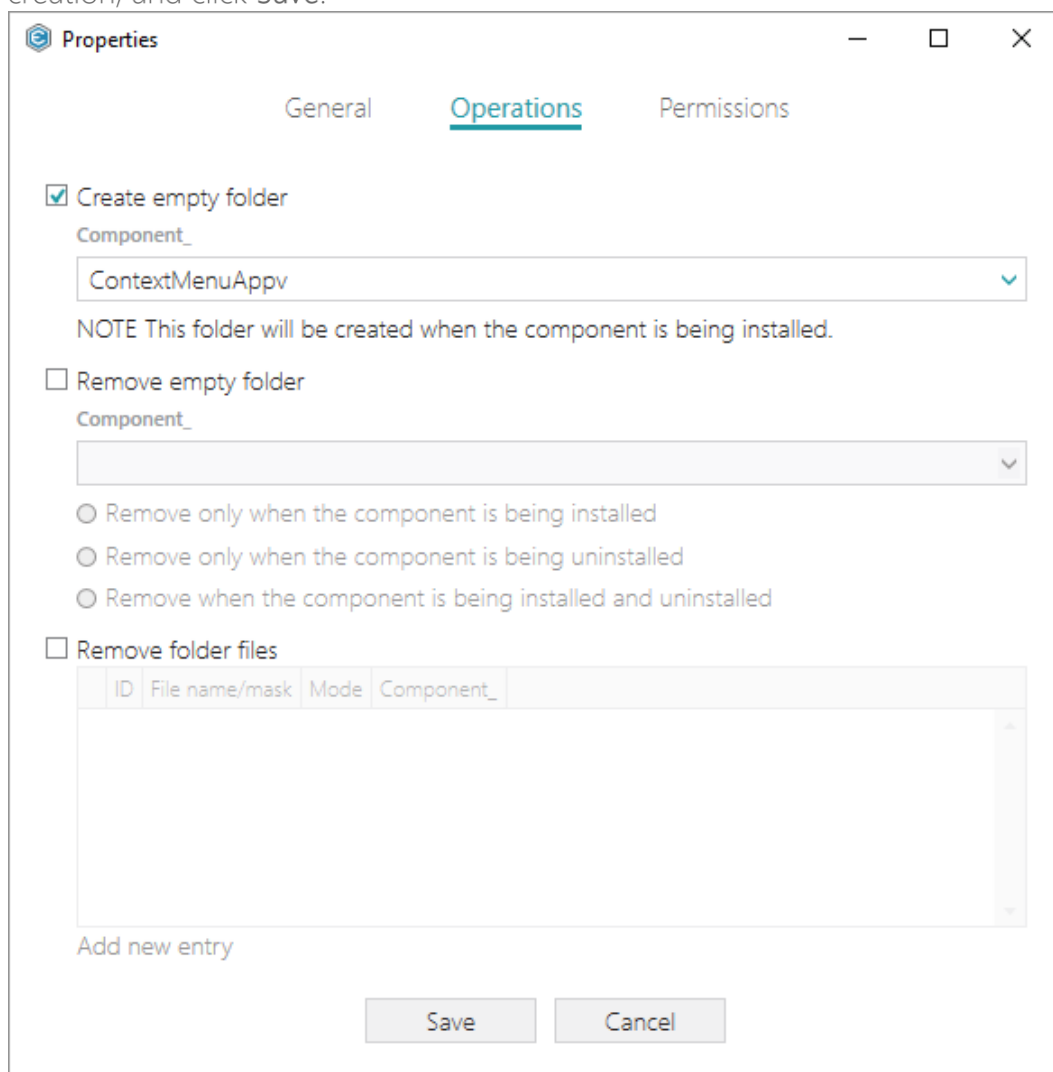
- Select **Properties** from the context menu of an empty folder, which you want to create on install on the target system.



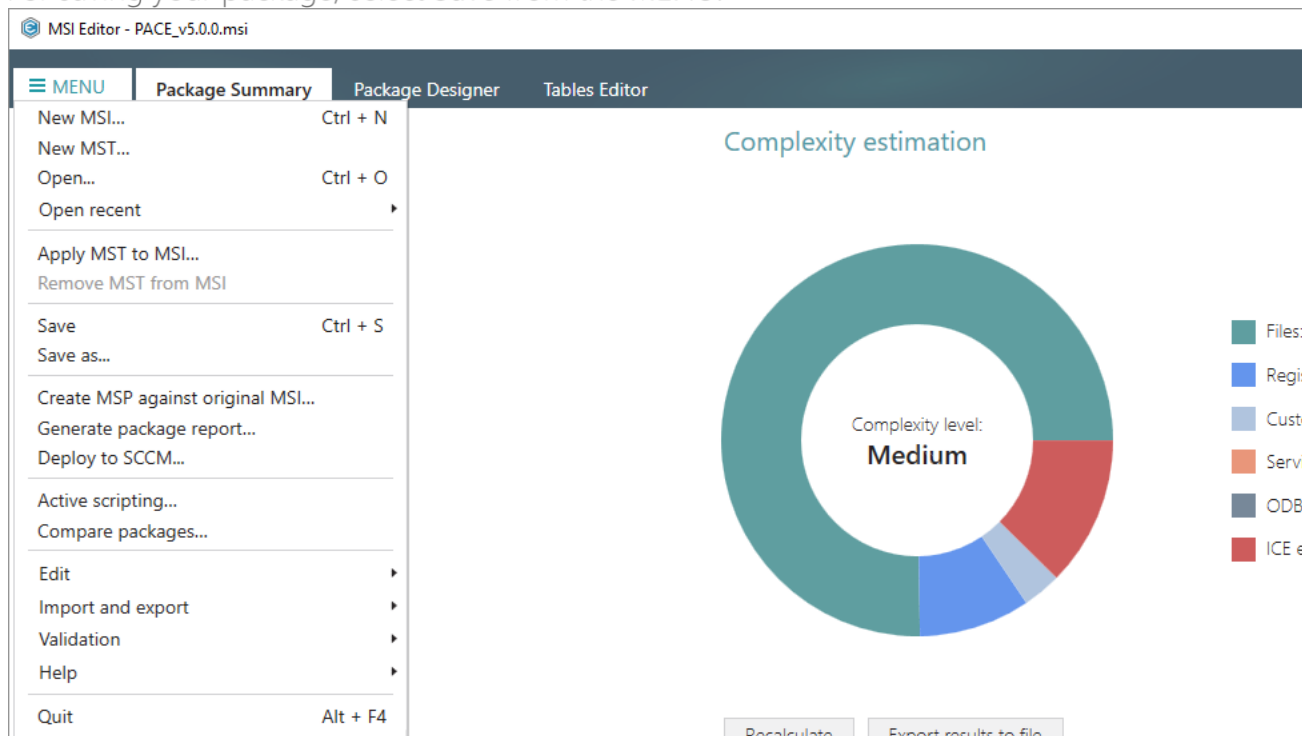
- Go to the Operations tab of the opened Properties window.



- Tick the Create empty folder option and select a component, which will control the folder creation, and click Save.



- For saving your package, select Save from the MENU.

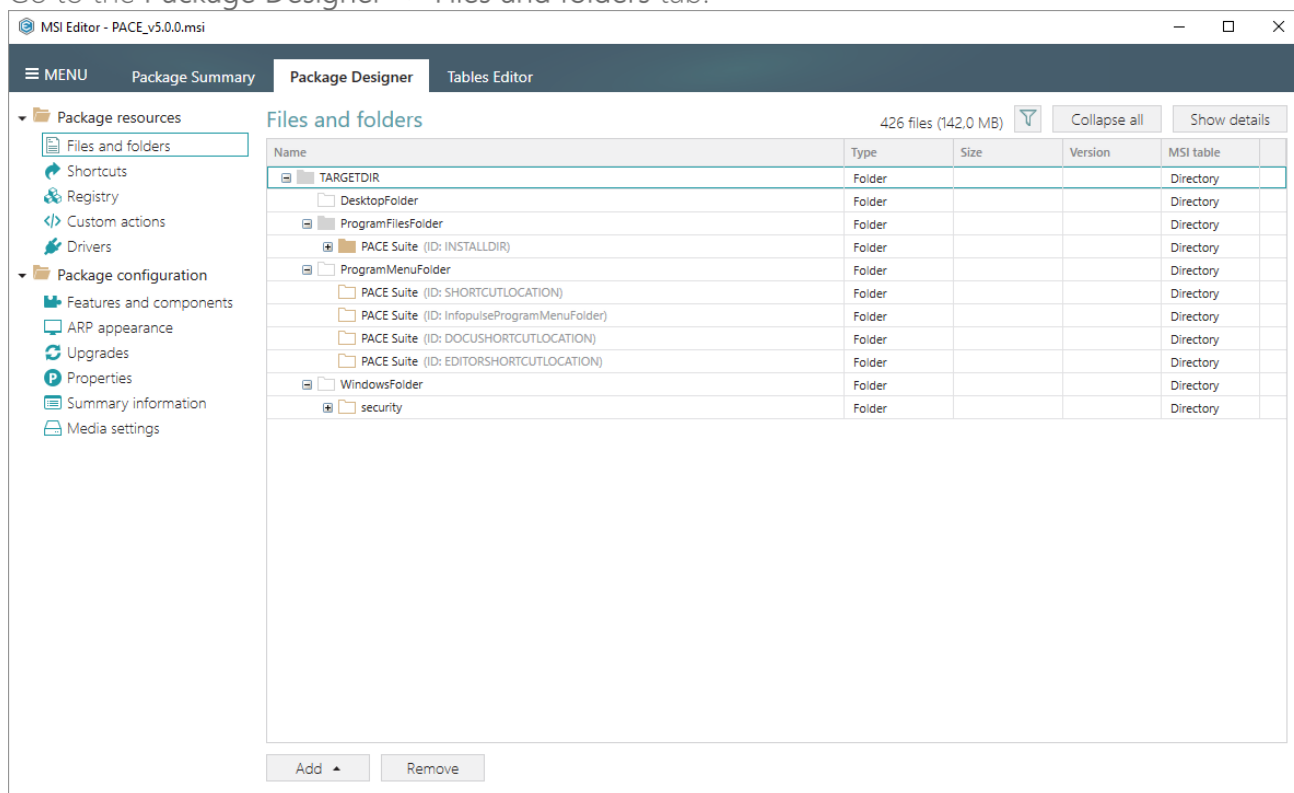


3.7.4.10 Control File/Folder Removal

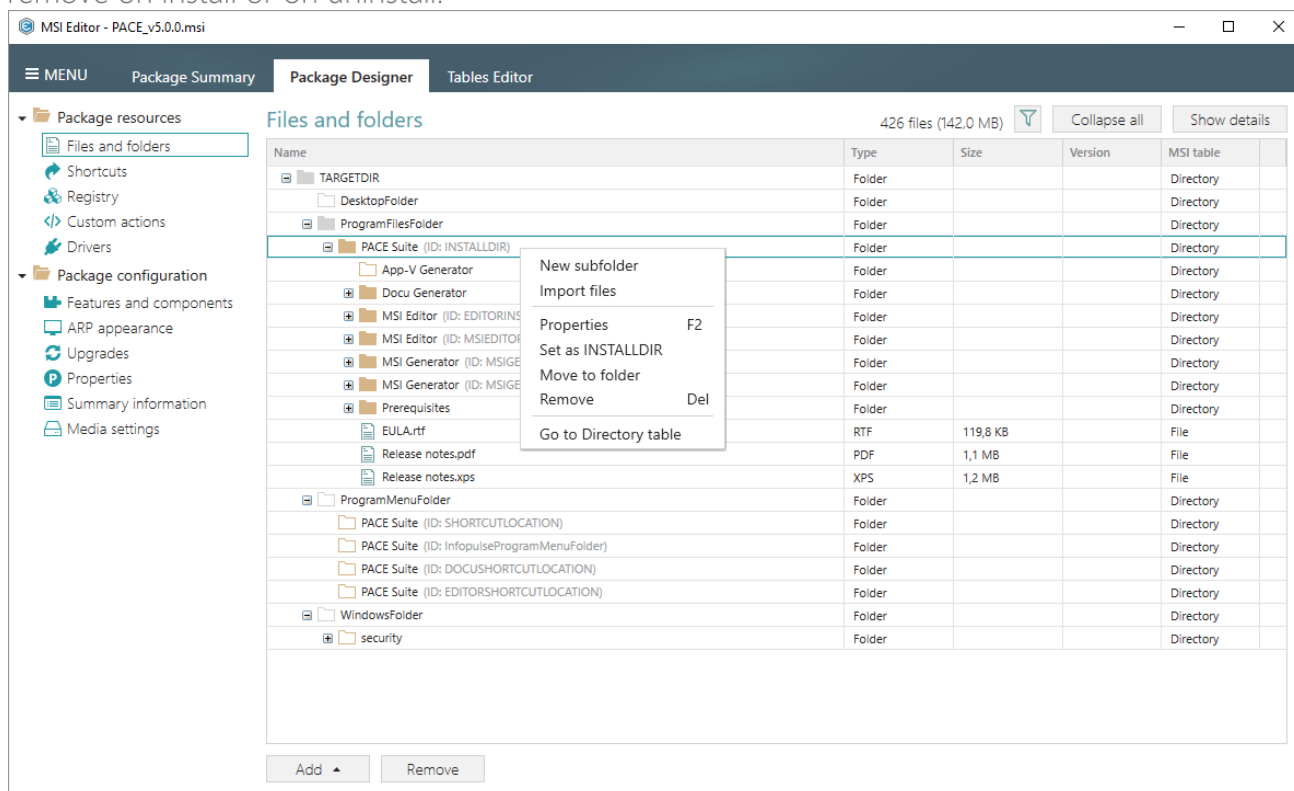
Force folder and its files removal on install or uninstall.

NOTE By default, MSI removes only those files, which it installs. This means that files, created during the application work, will remain on the system.

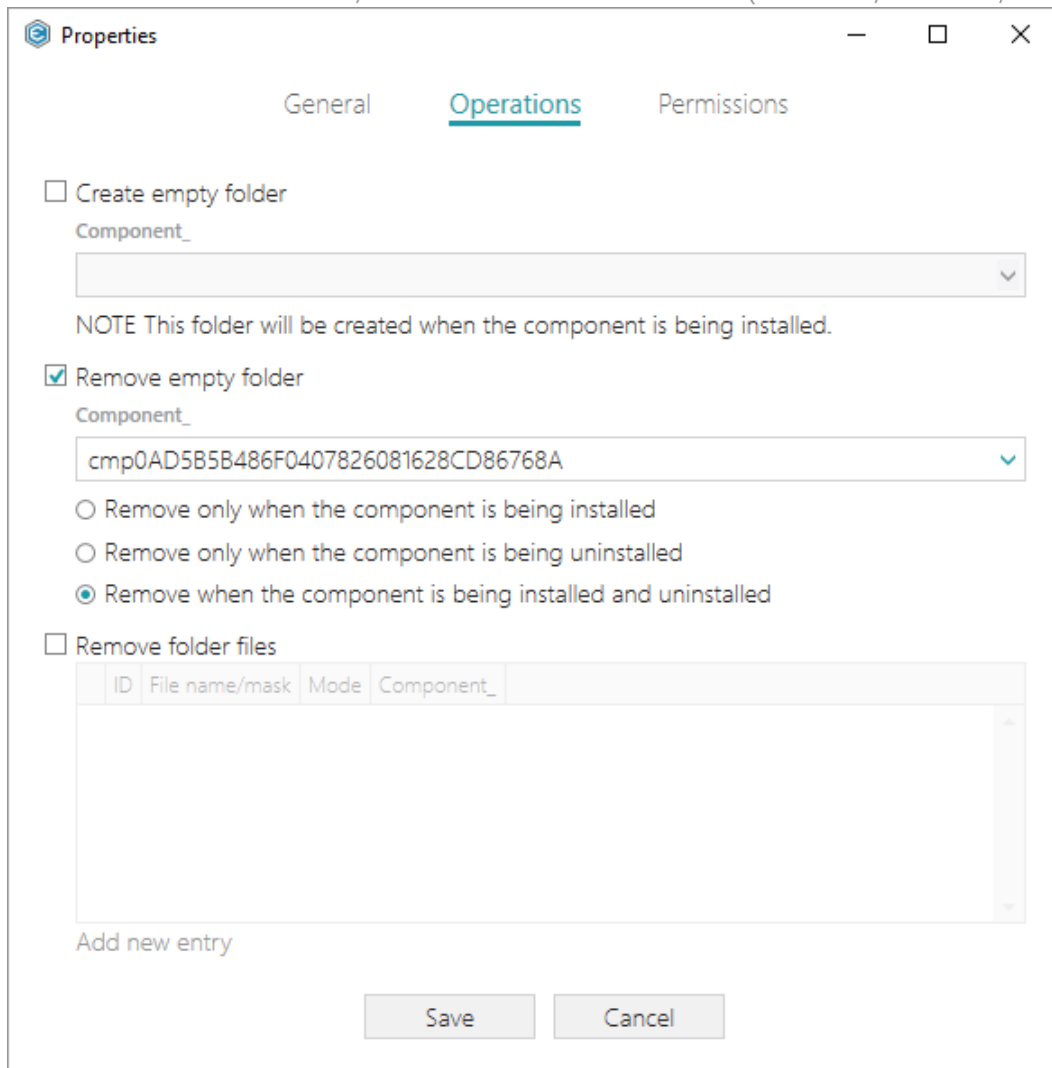
- Go to the Package Designer -> Files and folders tab.



- Select Properties from the context menu of a folder, files of which or folder itself you want to remove on install or on uninstall.



- To remove a folder, tick the Remove empty folder option, select a component, which will control the folder removal, and the removal conditions (on install, uninstall, or both).



Properties

General Operations Permissions

☐ Create empty folder

Component_

NOTE This folder will be created when the component is being installed.

☒ Remove empty folder

Component_

cmp0AD5B5B486F0407826081628CD86768A

☐ Remove only when the component is being installed

☐ Remove only when the component is being uninstalled

☒ Remove when the component is being installed and uninstalled

☐ Remove folder files

ID	File name/mask	Mode	Component_
Add new entry			

Save Cancel

- To remove files of this folder tick the Remove folder files option and click Add new entry. Edit row cells, highlighted in red, to specify a complete file name or with [wildcards](#) to remove either a specific file or set of files, then choose removal conditions (Mode) from the drop-

down list, and a component, which will control the files removal. Afterwards, click **Save**.

Properties

General Operations Permissions

☐ Create empty folder
Component_

NOTE This folder will be created when the component is being installed.

☒ Remove empty folder
Component_
cmp0AD5B5B486F0407826081628CD86768A

☐ Remove only when the component is being installed
☐ Remove only when the component is being uninstalled
☒ Remove when the component is being installed and uninstalled

☒ Remove folder files

ID	File name/mask	Mode	Component_
▶ INSTALLDIR_3	*.log	3	cmp0AD5B5B486F0407826081628CD86768A

[Add new entry](#)

Save **Cancel**

- For saving your package, select **Save** from the **MENU**.

MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer Tables Editor

New MSI... Ctrl + N
New MST...
Open... Ctrl + O
Open recent
Apply MST to MSI...
Remove MST from MSI
Save Ctrl + S
Save as...
Create MSP against original MSI...
Generate package report...
Deploy to SCCM...
Active scripting...
Compare packages...
Edit
Import and export
Validation
Help
Quit Alt + F4

Complexity estimation

Complexity level:
Medium

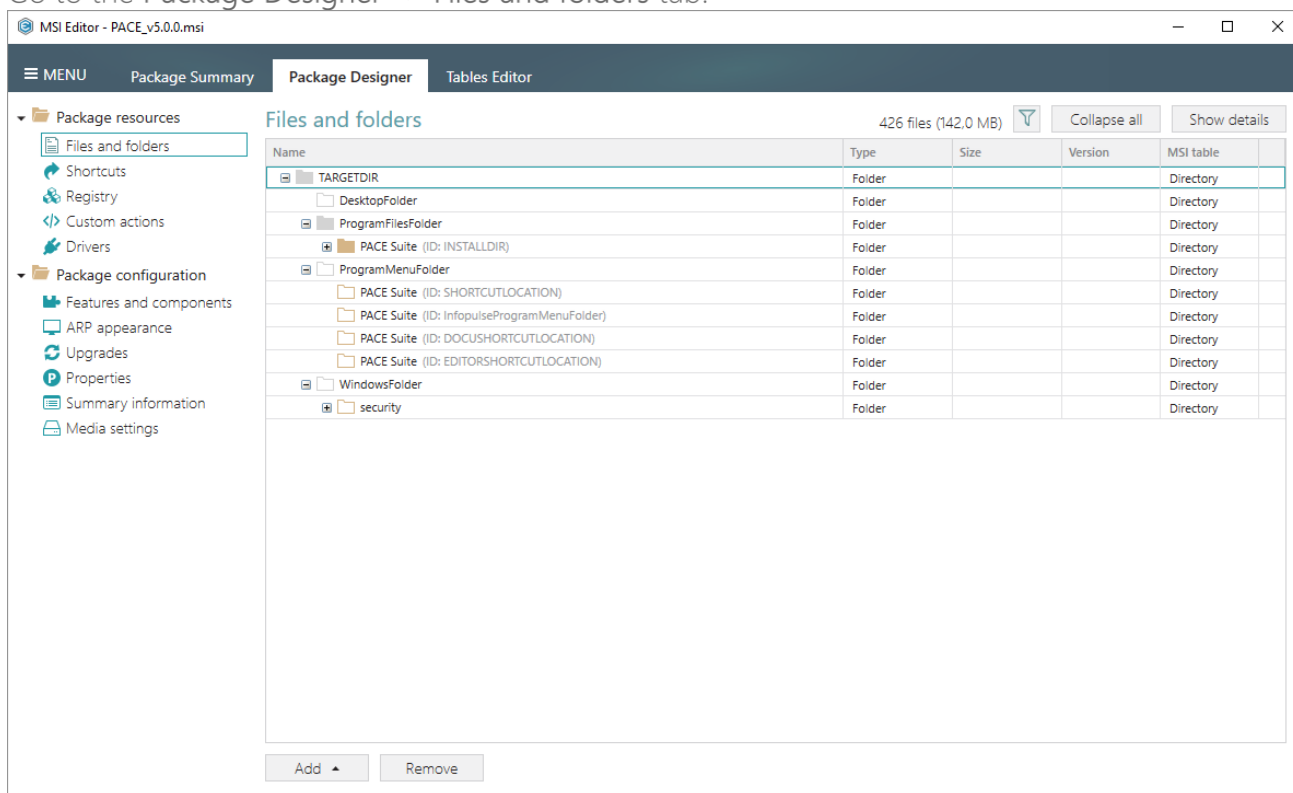
Files:
Regis
Cust
Servi
ODB
ICE e

Recalculate **Export results to file**

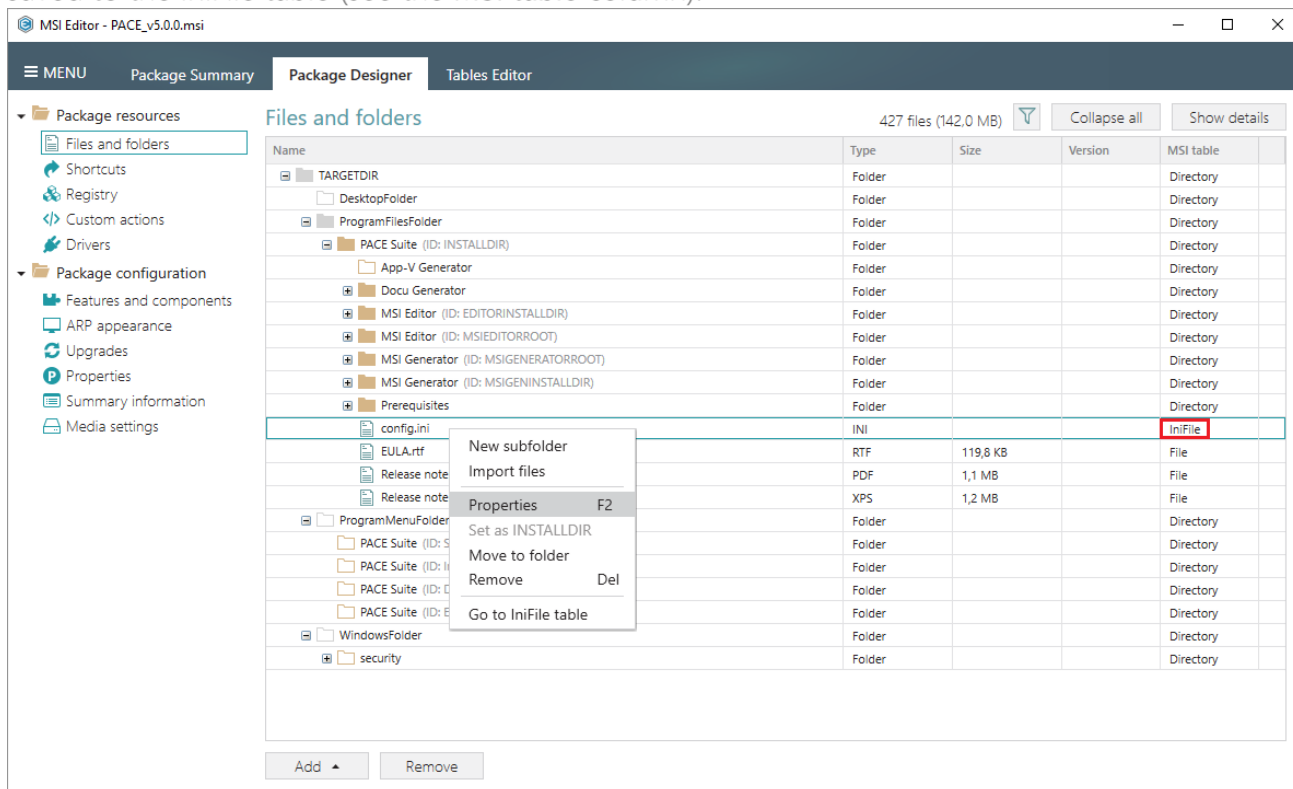
3.7.4.11 Edit INI File

Edit a name, destination location and content of the INI file, saved to the IniFile table. Note that some INI files could be saved to the File table as binary files and their content could not be modified using this approach.

- Go to the Package Designer -> Files and folders tab.



- Select Properties from the context menu of an INI file, which you want to edit.
NOTE Using this approach you can review and modify content only those INI files, which are saved to the IniFile table (see the MSI table column).



- Update the necessary values such as file name, installation folder, file content and click Save.

Properties General Permissions

MSI table: 'IniFile'

Name:

Target (installation) folder: Browse...

Content

IniFile	Section	Key	Value	Action	Component
_8ed156d93a64...	1	State ID	4444	0	INI_conf...
_d5e7127585b24...	1	State Name	CBlankDialogResizeState	0	INI_conf...
_948ecf55d9184c...	2	DiscoveryMethod	IPAddrORHostName	0	INI_conf...
_e1df182ba3cc4c...	2	IPAddrORHostName	172.27.236.52	0	INI_conf...
_4649bb7952ee...	2	Discovery	Single Device	0	INI_conf...
_6809d926c97a4...	2	State ID	422	0	INI_conf...
_f43cad6313f74c...	2	State Name	CNewPtrIDChoiceState	0	INI_conf...
_5a7e2652bb144...	3	State ID	83	0	INI_conf...
_a47b8e2d9ee04...	3	State Name	CFirewallInfoState	0	INI_conf...

[Add new INI entry](#)

Save Cancel

- For saving your package, select Save from the MENU.

MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer Tables Editor

- New MSI... Ctrl + N
- New MST...
- Open... Ctrl + O
- Open recent
- Apply MST to MSI...
- Remove MST from MSI
- Save Ctrl + S
- Save as...
- Create MSP against original MSI...
- Generate package report...
- Deploy to SCCM...
- Active scripting...
- Compare packages...
- Edit
- Import and export
- Validation
- Help
- Quit Alt + F4

Complexity estimation

Complexity level: **Medium**

Legend:

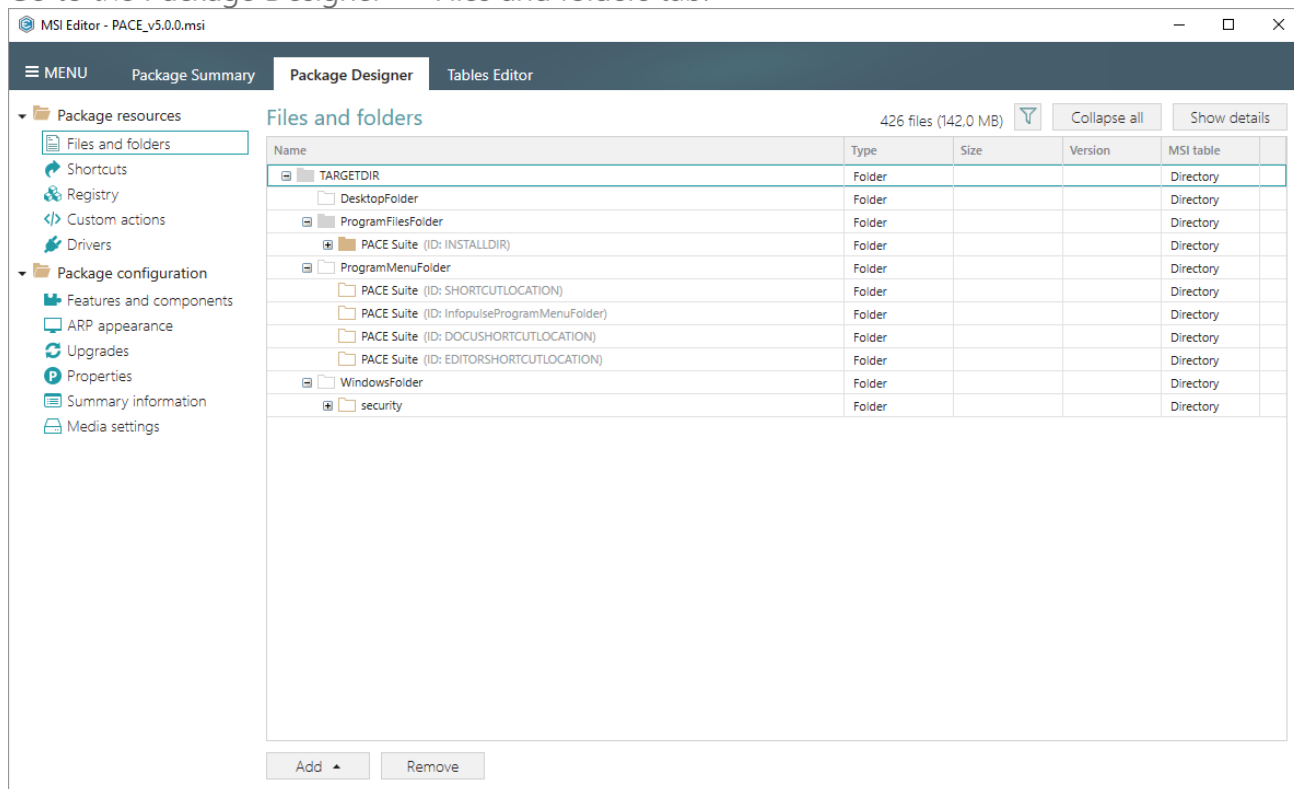
- Files:
- Regis
- Custr
- Servi
- ODB
- ICE e

Recalculate Export results to file

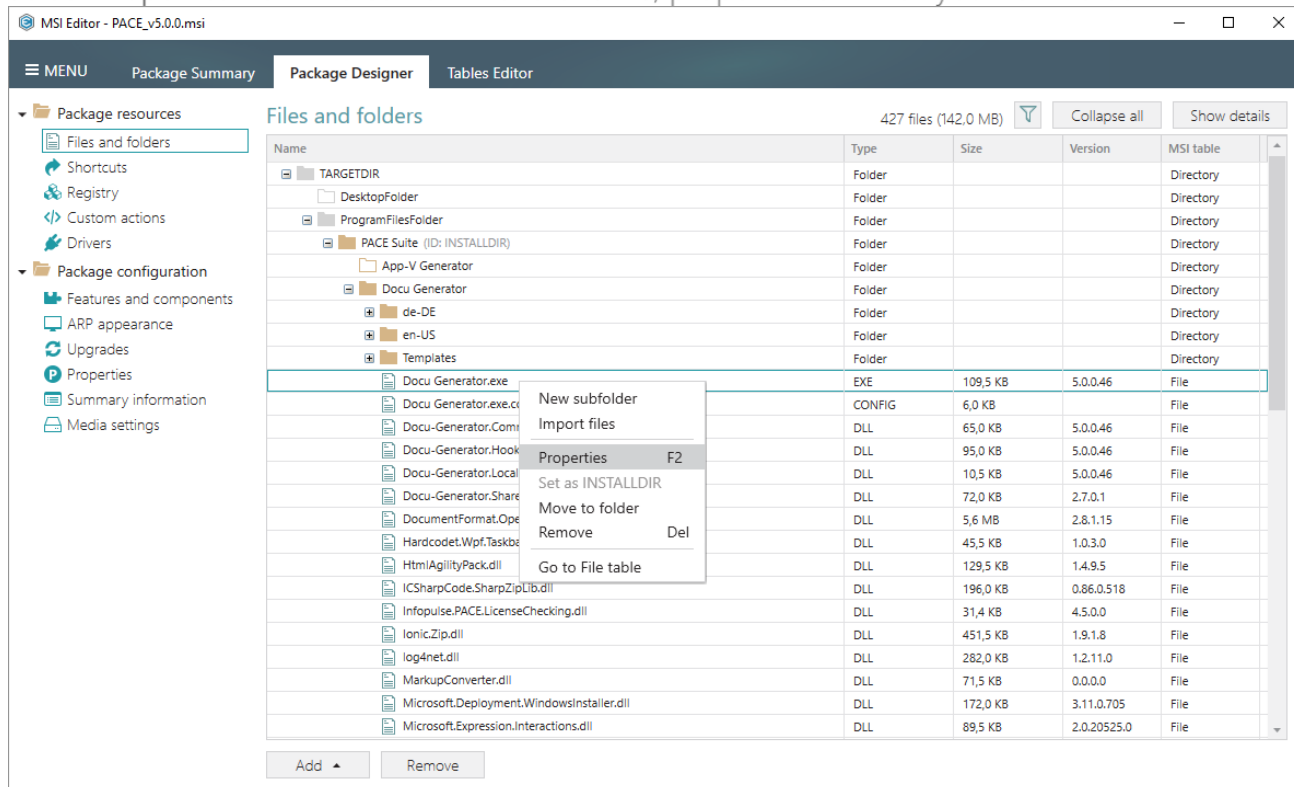
3.7.4.12 Edit File Properties

Edit a name, identifier, destination location, component and many other attributes of the file, saved to the File table.

- Go to the Package Designer -> Files and folders tab.



- Select Properties from the context menu of a file, properties of which you want to edit.



- Update the necessary values such as file name, installation folder, attributes and so on. Afterwards, click Save.

The 'Properties' dialog box shows the 'General' tab for the MSI table 'File'. It contains the following fields and options:

- Name:** Docu Generator.exe
- Identifier:** Docu_Generator.exe
- Target (installation) folder:** ProgramFilesFolder\PACE Suite\Docu Generator (ID: DOCUINSTALLDIR) [Browse...]
- Source (get from) path:** SourceDir\Program Files\PACE Suite\Docu Generator
- Component_:** Docu_Generator.exe
- Sequence number:** 395
- Size (in bytes):** 112128
- Version:** 5.0.0.46
- Language:** 0
- Retrieve file details (Size, Version, Language) by source path** (checked)
- Attributes:**
 - ☐ Read-Only
 - ☐ Hidden
 - ☐ System
 - ☐ Vital
 - ☐ Checksum
 - ☐ Added by Patch
 - ☐ Override compression type
 - ☐ Compress this file in CAB
 - ☐ Do not compress this file
- Buttons:** Save, Cancel

- For saving your package, select Save from the MENU.

The MSI Editor interface shows the 'MENU' dropdown open, listing various actions. The 'Complexity estimation' section displays a donut chart with the following data:

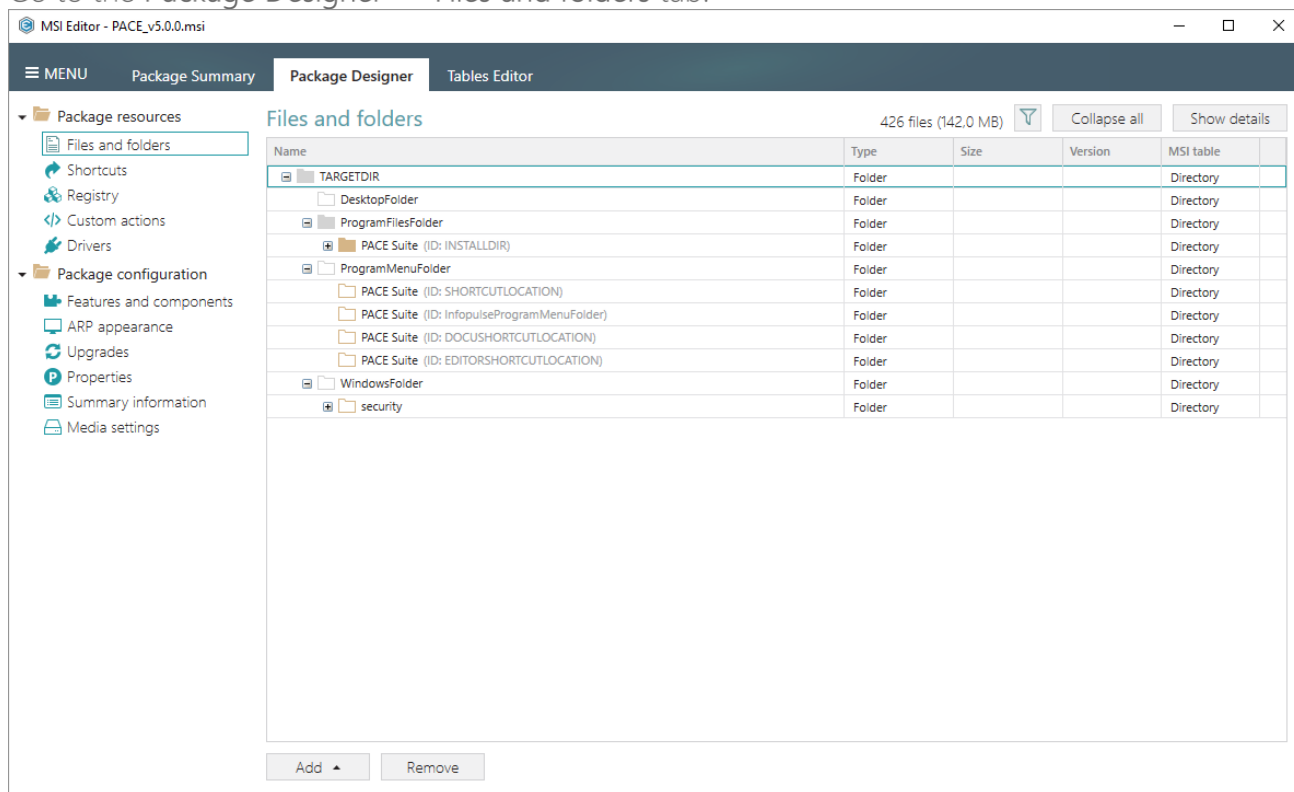
Category	Color
Files	Teal
Regis	Blue
Custr	Light Blue
Servi	Orange
ODB	Dark Blue
ICE e	Red

The chart indicates a **Complexity level: Medium**. Below the chart are buttons for 'Recalculate' and 'Export results to file'.

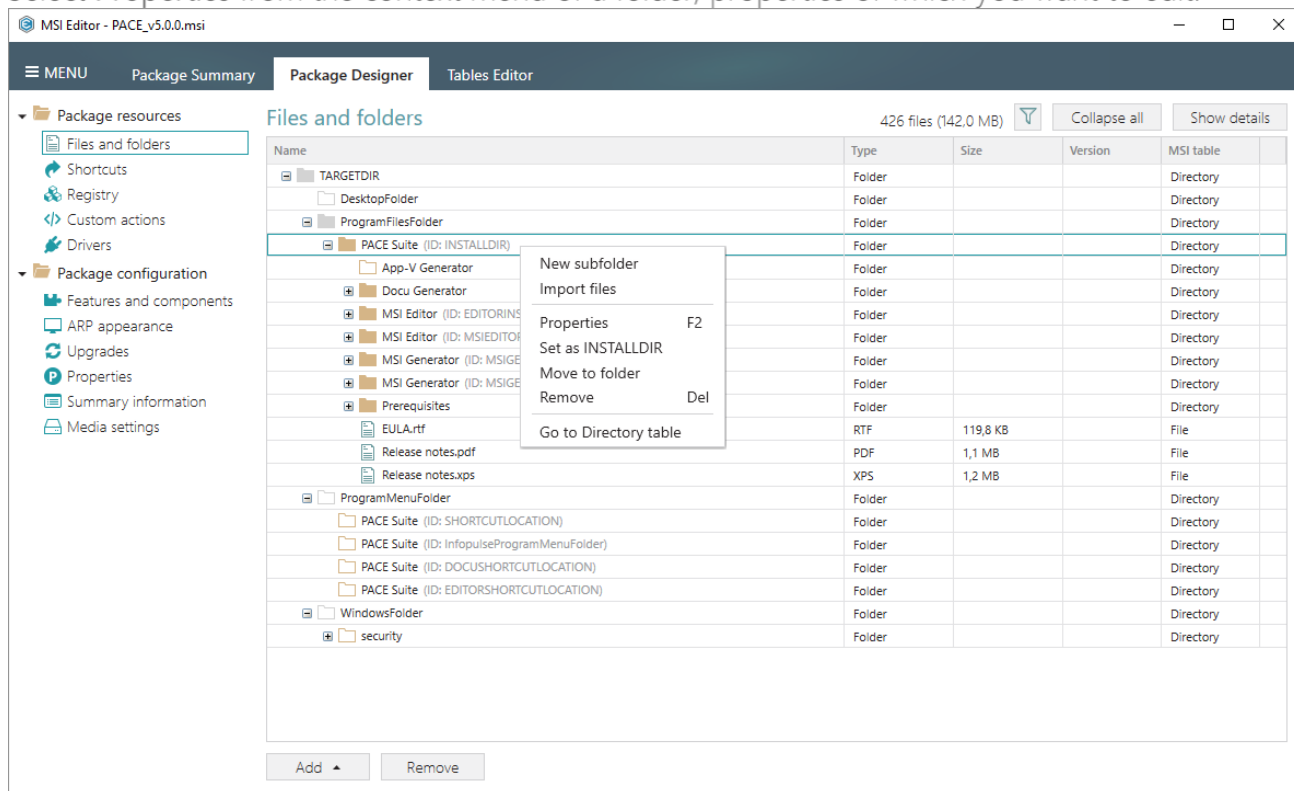
3.7.4.13 Edit Folder Properties

Edit a folder target and source names, identifier, and its parent folder.

- Go to the Package Designer -> Files and folders tab.



- Select Properties from the context menu of a folder, properties of which you want to edit.



- Update the necessary values such as folder target and source names, its parent and so on. Afterwards, click Save.

The 'Properties' dialog box is shown with the 'General' tab selected. It contains the following fields and options:

- Name:** PACE Suite
- Identifier:** INSTALLDIR
- Source name:** PACE Suite
- ☐ Set custom source name
- Parent folder:** ProgramFilesFolder (ID: ProgramFilesFolder) with a 'Browse...' button.
- [Make this folder root](#)
- Buttons:** Save, Cancel

- For saving your package, select Save from the MENU.

The MSI Editor interface is shown with the 'MENU' dropdown open. The 'Complexity estimation' section displays a donut chart with the following data:

Category	Color
Files	Teal
Regis	Blue
Custr	Light Blue
Servi	Orange
ODB	Dark Blue
ICE e	Red

The complexity level is **Medium**. Buttons at the bottom include 'Recalculate' and 'Export results to file'.

3.7.5 Shortcuts

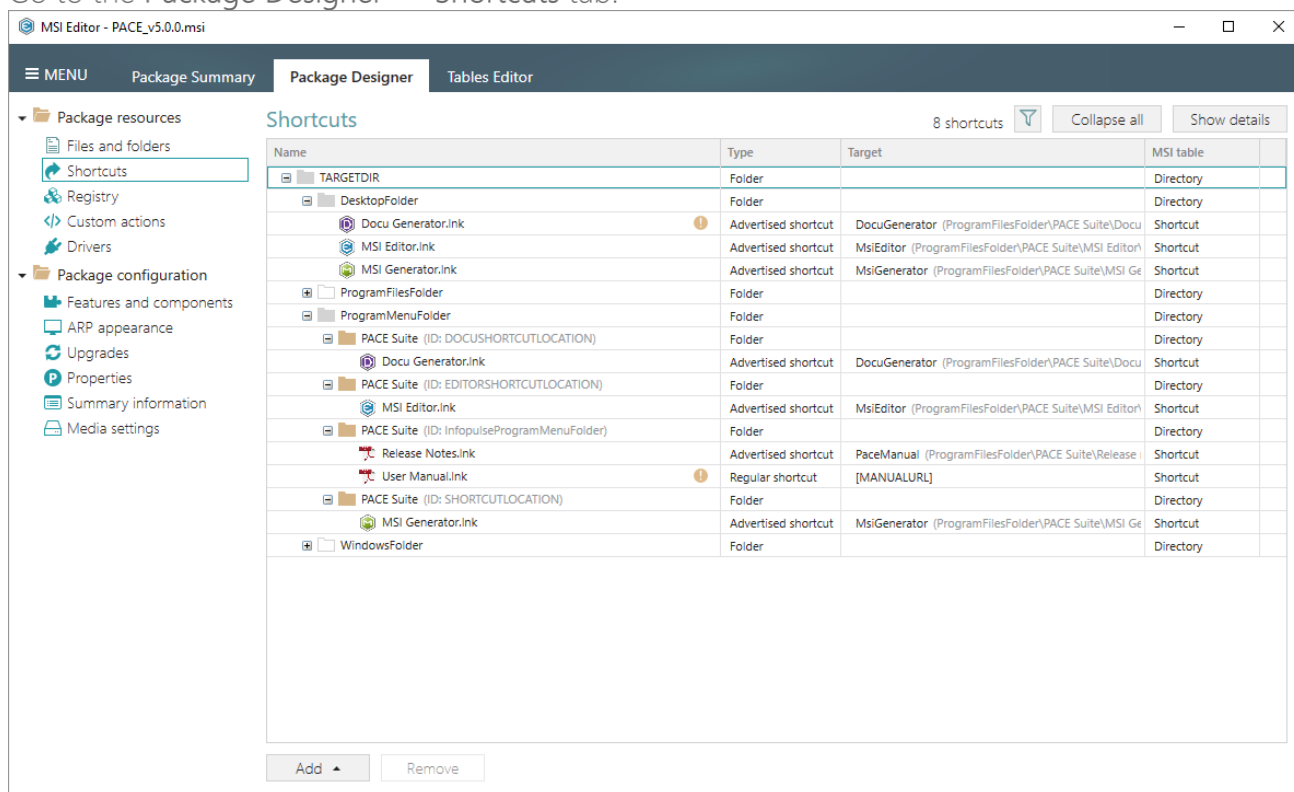
Choose a scenario that better suits your needs:

- **Add Shortcut**, described in section 3.7.5.1
Add a regular or an advertised shortcut that points to a file, folder or URL.
- **Import Shortcuts**, described in section 3.7.5.2
Import shortcuts from the file system to the package.
- **Move Shortcut**, described in section 3.7.5.3
Move a shortcut to another folder.
- **Edit Shortcut Properties**, described in section 3.7.5.4
Edit shortcut details such as icon, name, installation folder, shortcut type, arguments, description and the like.

3.7.5.1 Add Shortcut

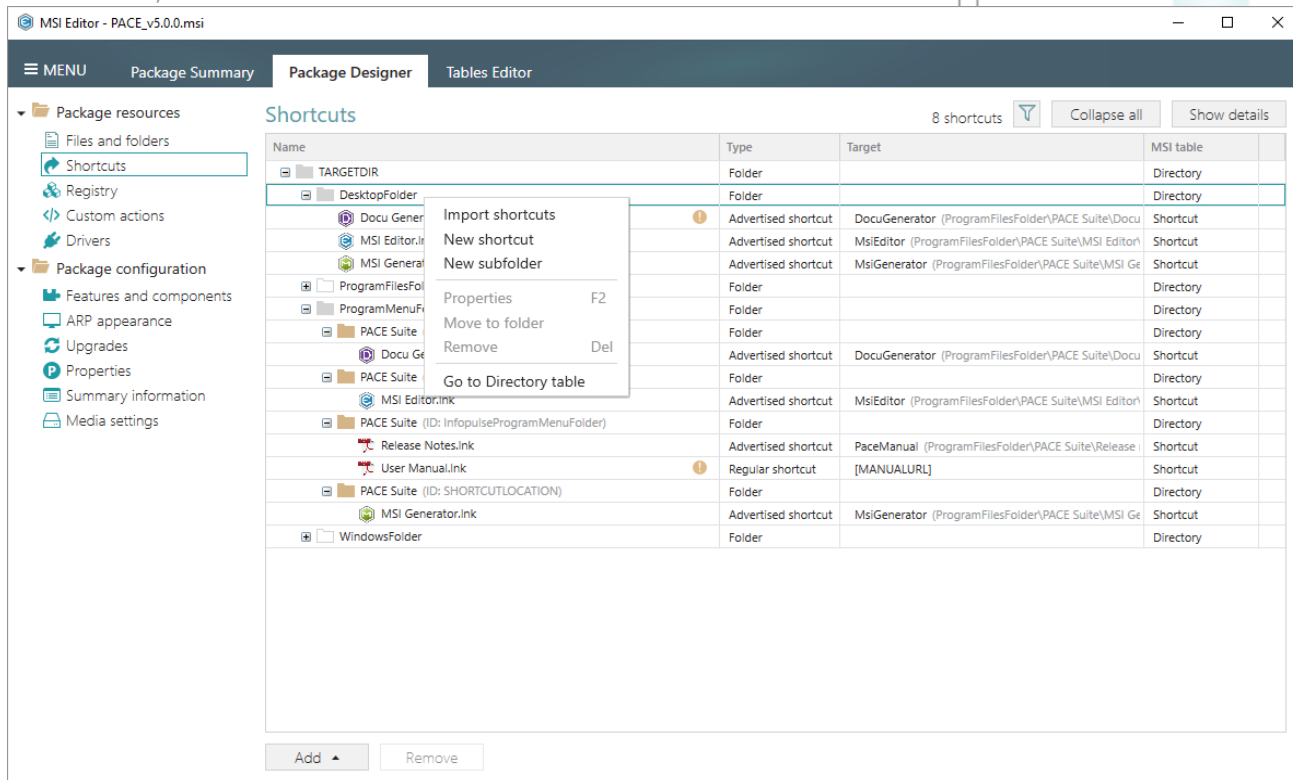
Add a regular or an advertised shortcut that points to a file, folder or URL.

- Go to the Package Designer -> Shortcuts tab.

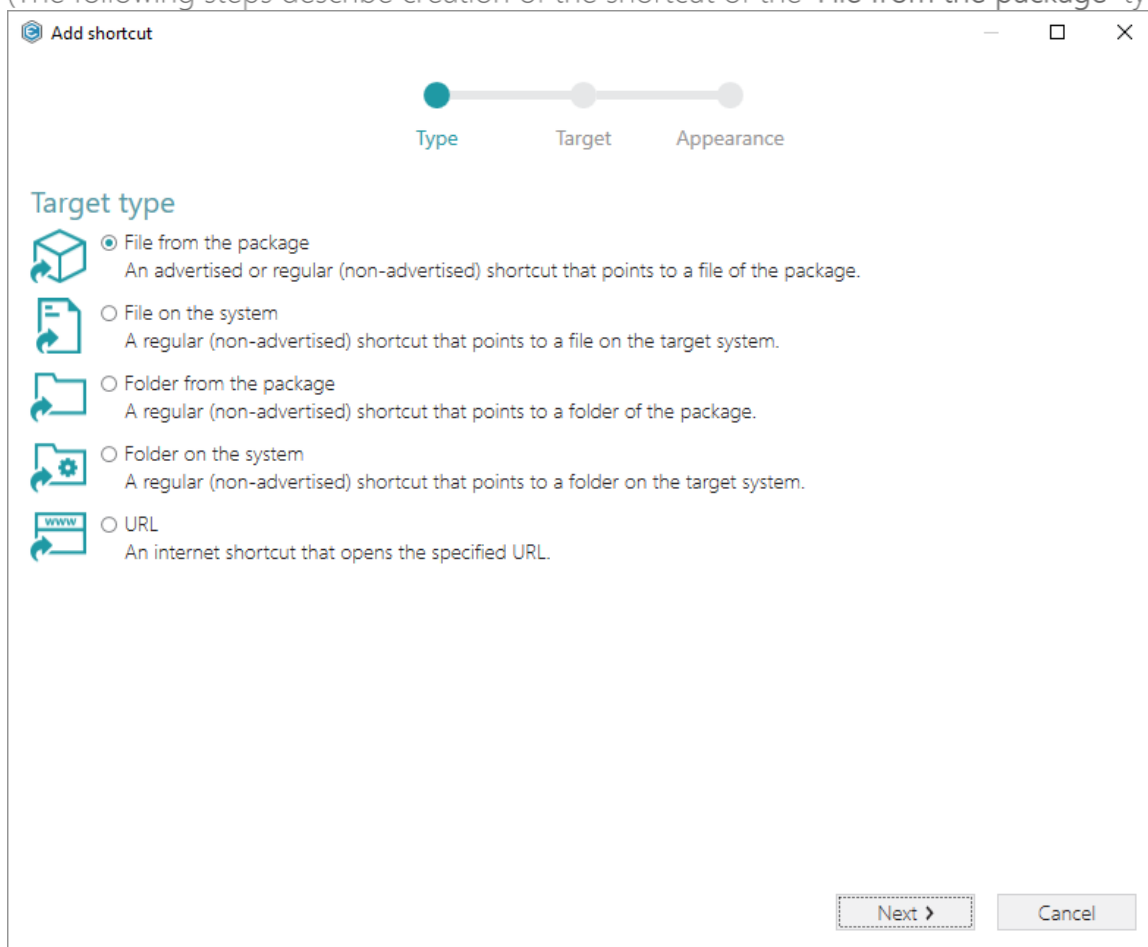


- Select **New shortcut** from the context menu of a folder, where you want to create a shortcut.
NOTE To add the missing system folders (e.g. DesktopFolder, ProgramMenuFolder) or subfolders, select **Add -> System folders** or **Add -> Subfolder** respectively from the toolbox

menu. Also, ensure that the Hide folders without shortcuts filter is not applied.



- Select a type of the shortcut target and click Next.
(The following steps describe creation of the shortcut of the 'File from the package' type.)



- Click **Browse**, located next to the **Shortcut target** field, to select a target of the shortcut.

Add shortcut

Type Target Appearance

Target

Shortcut target

Arguments

Start in (WkDir)

Folder

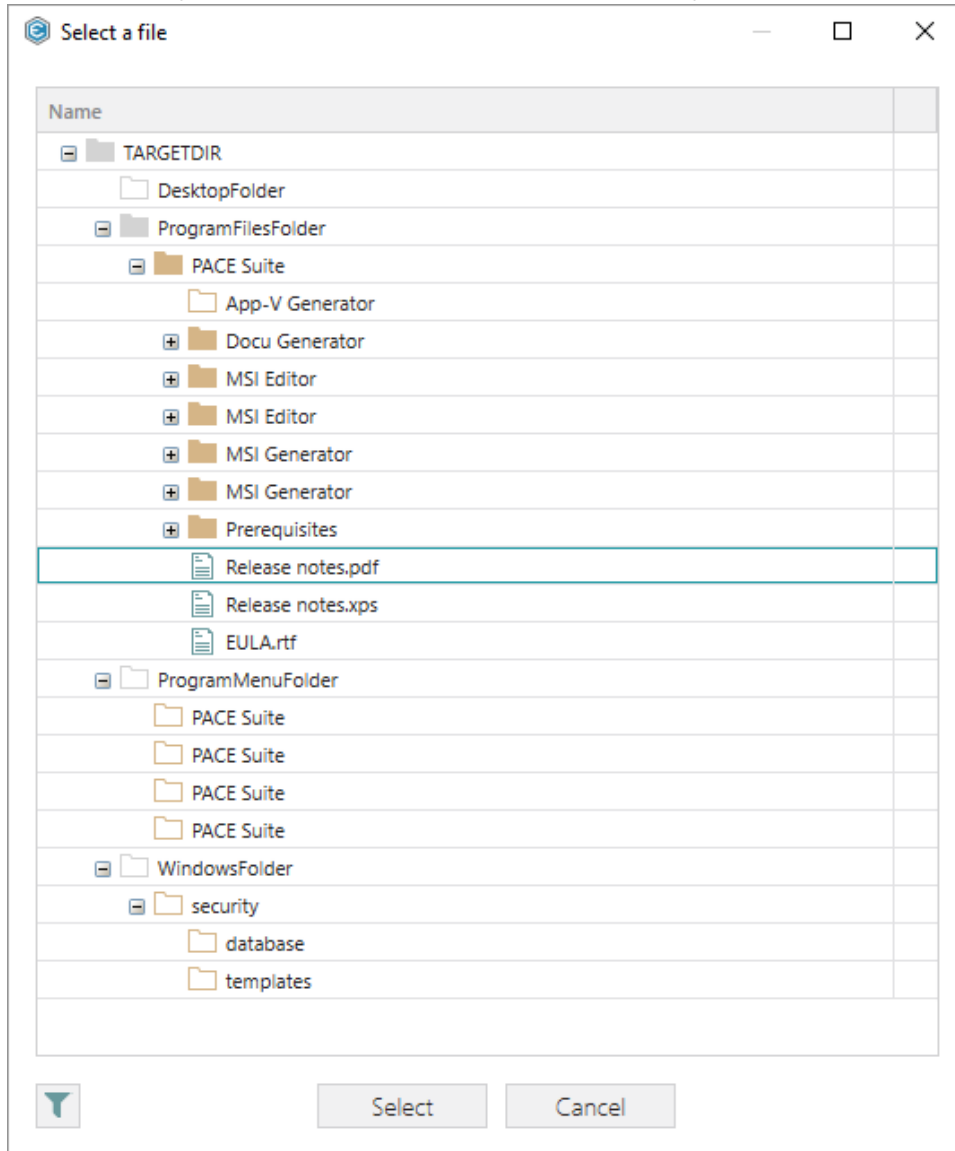
Shortcut type

☒ Advertised shortcut

☐ Regular (non-advertised) shortcut

Back Next > Cancel

- Choose a file, for which this shortcut will be created, and click Select.



- If needed, specify a shortcut **Arguments**, change the **Start in** path (select a folder or a property), and select a **Shortcut type**.

NOTE Only Advertised shortcuts support advertisement and repair, which allow to restore the missing files automatically on the shortcut launch. Then, click **Next**.

Add shortcut

Progress: Type (✓), **Target**, Appearance

Target

Shortcut target
 ProgramFilesFolder\PACE Suite\Release notes.pdf (ID: release_notes.pdf) Browse...

Arguments
 [Empty text box]

Start in (WkDir)
 Folder ▼
 ProgramFilesFolder\PACE Suite (ID: INSTALLDIR) Browse...

Shortcut type
☒ Advertised shortcut
☐ Regular (non-advertised) shortcut

◀ Back Next ▶ Cancel

- On the last step, enter a **Shortcut name**, choose a shortcut icon and, if needed, specify the **Shortcut Description**, **Hot key** and **Run** options. Click **Finish** to add the shortcut.

Add shortcut

Progress: Type ✓ Target ✓ Appearance

Appearance

Shortcut name: End User License Agreement

Description: End User License Agreement RTF document

Hot key: Ctrl + Shift + E

Run: Normal window

Buttons: < Back, Finish, Cancel

- For saving your package, select **Save** from the **MENU**.

MSI Editor - PACE_v5.0.0.msi

MENU | Package Summary | Package Designer | Tables Editor

Complexity estimation

Complexity level: **Medium**

Legend:

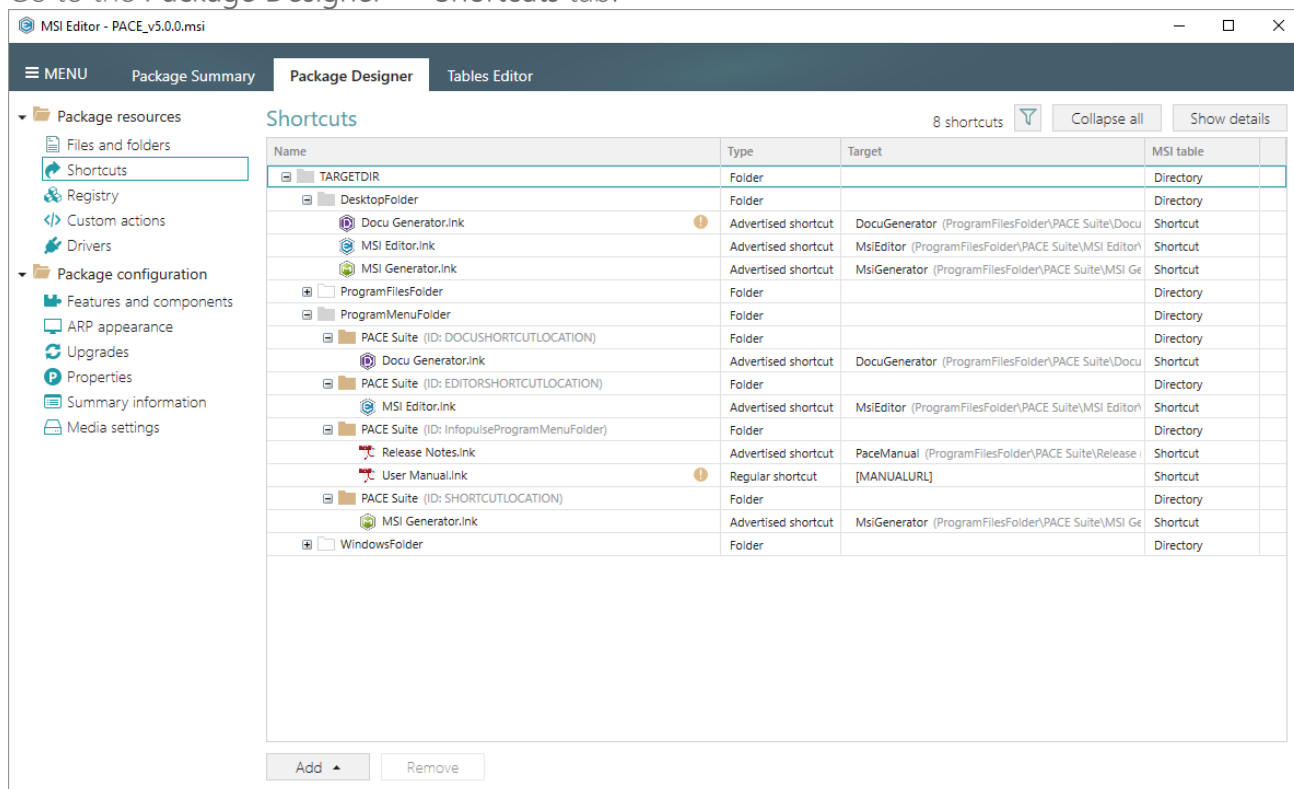
- Files: (dark teal)
- Regis: (blue)
- Custr: (light blue)
- Servi: (orange)
- ODB: (dark grey)
- ICE e: (red)

Buttons: Recalculate, Export results to file

3.7.5.2 Import Shortcuts

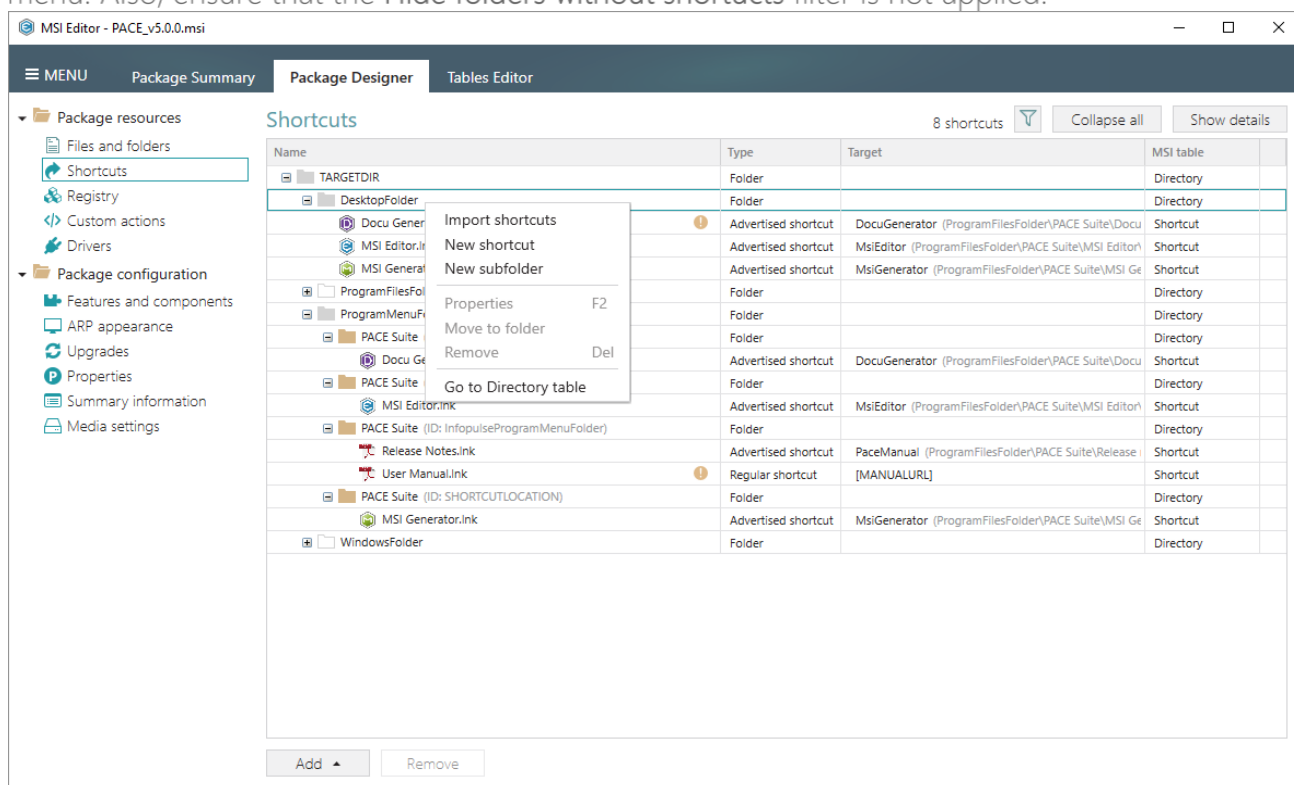
Import shortcuts from the file system to the package.

- Go to the Package Designer -> Shortcuts tab.

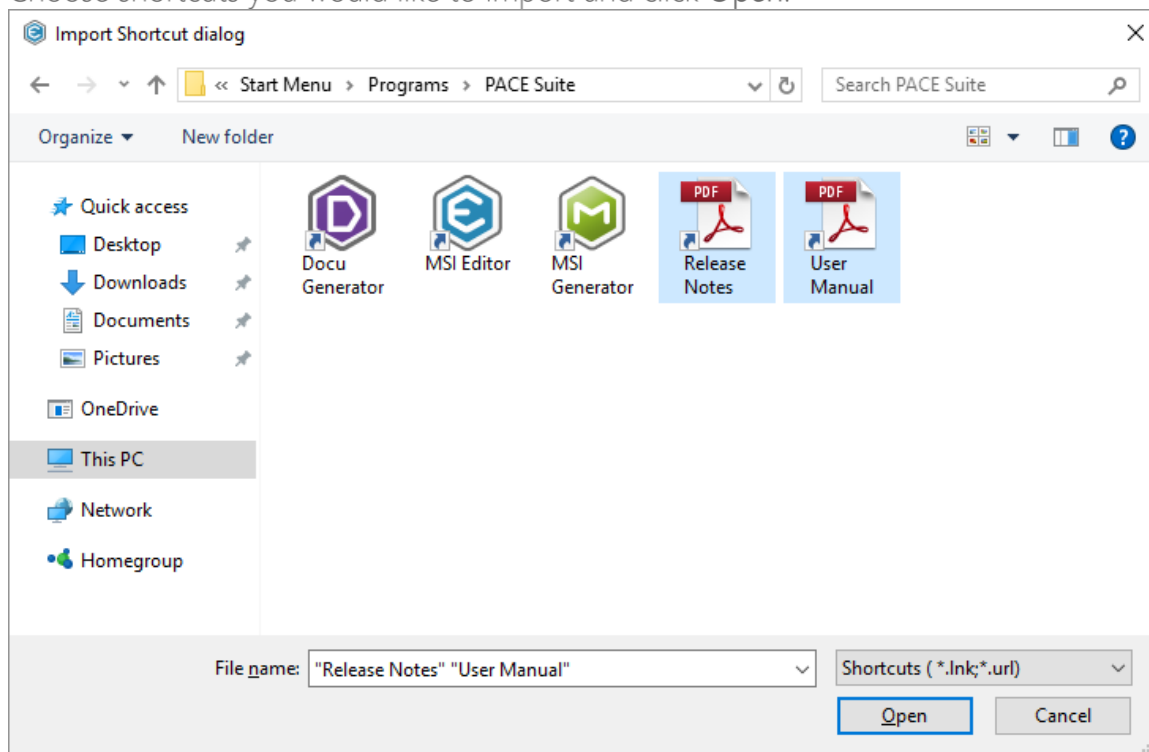


- Select Import shortcuts from the context menu of a folder, to which you want to import shortcuts from the file system.

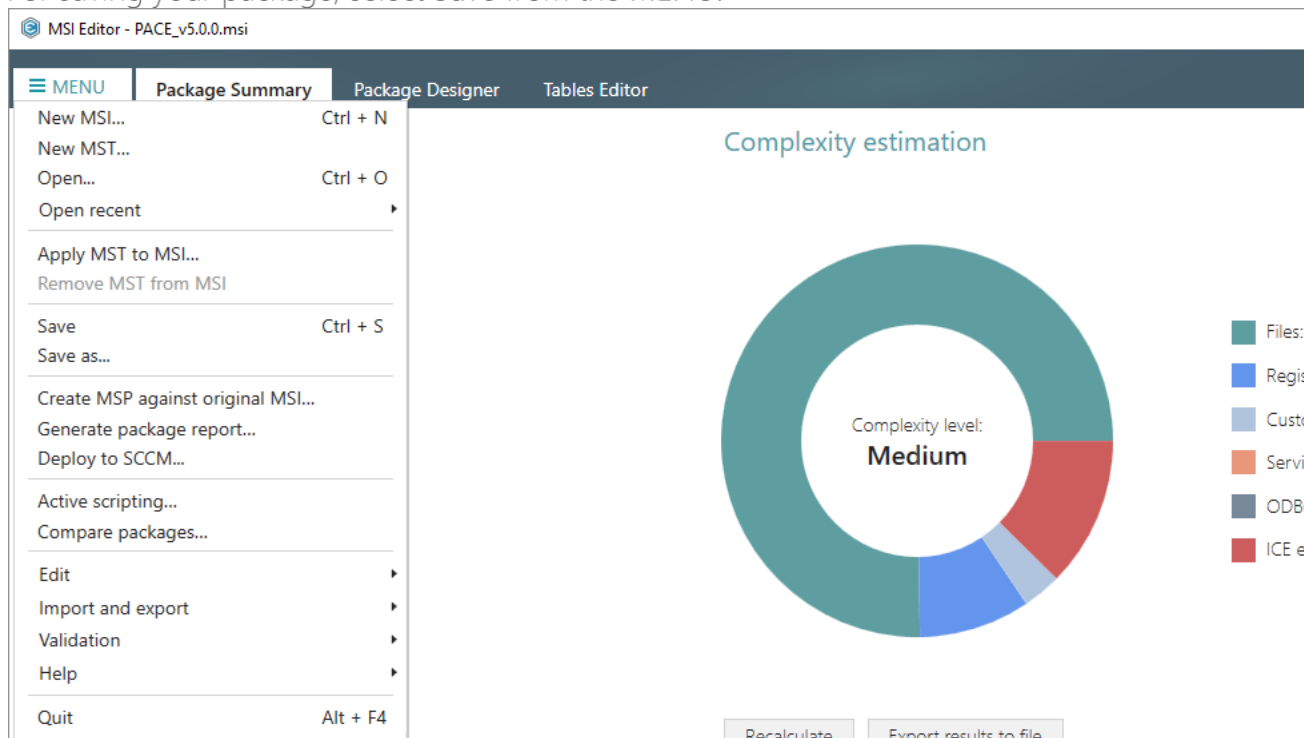
NOTE To add the missing system folders (e.g. DesktopFolder, ProgramMenuFolder) or subfolders, select Add -> System folders or Add -> Subfolder respectively from the toolbox menu. Also, ensure that the Hide folders without shortcuts filter is not applied.



- Choose shortcuts you would like to import and click Open.



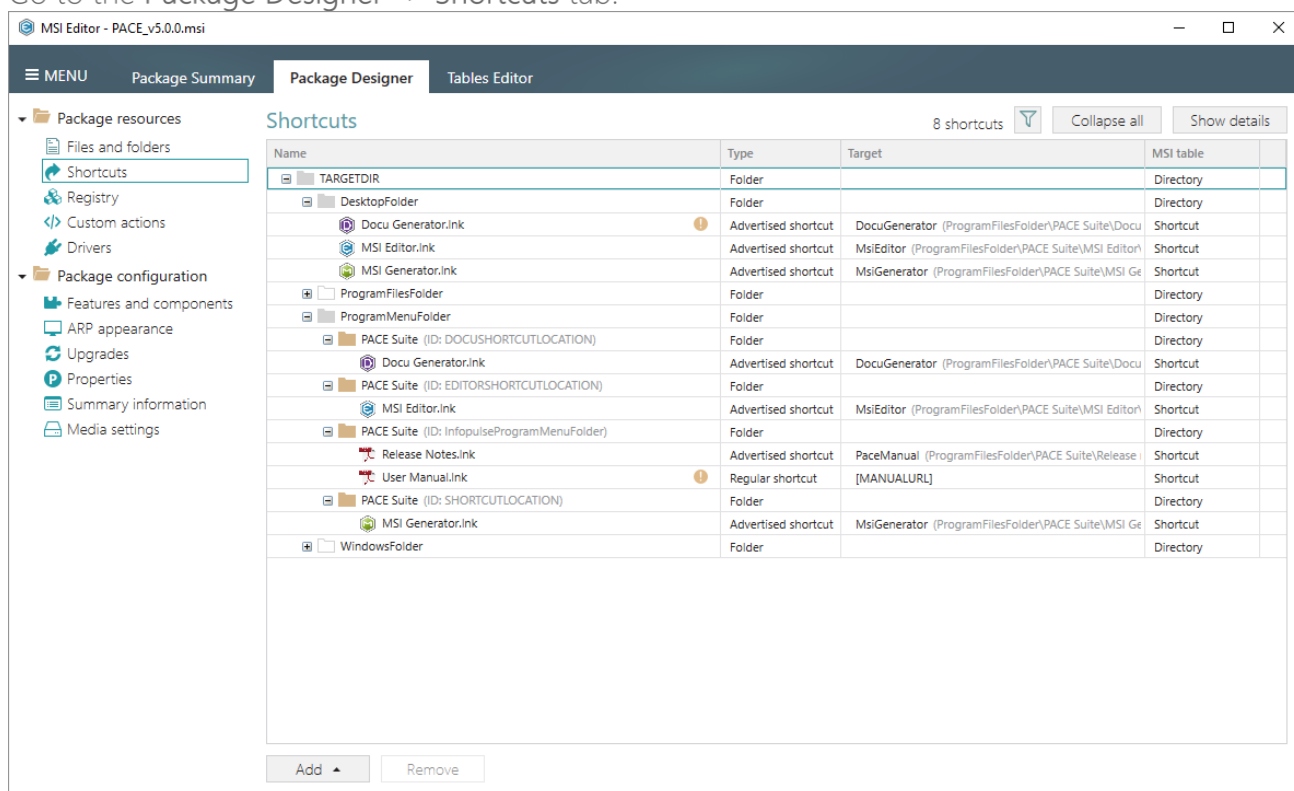
- For saving your package, select Save from the MENU.



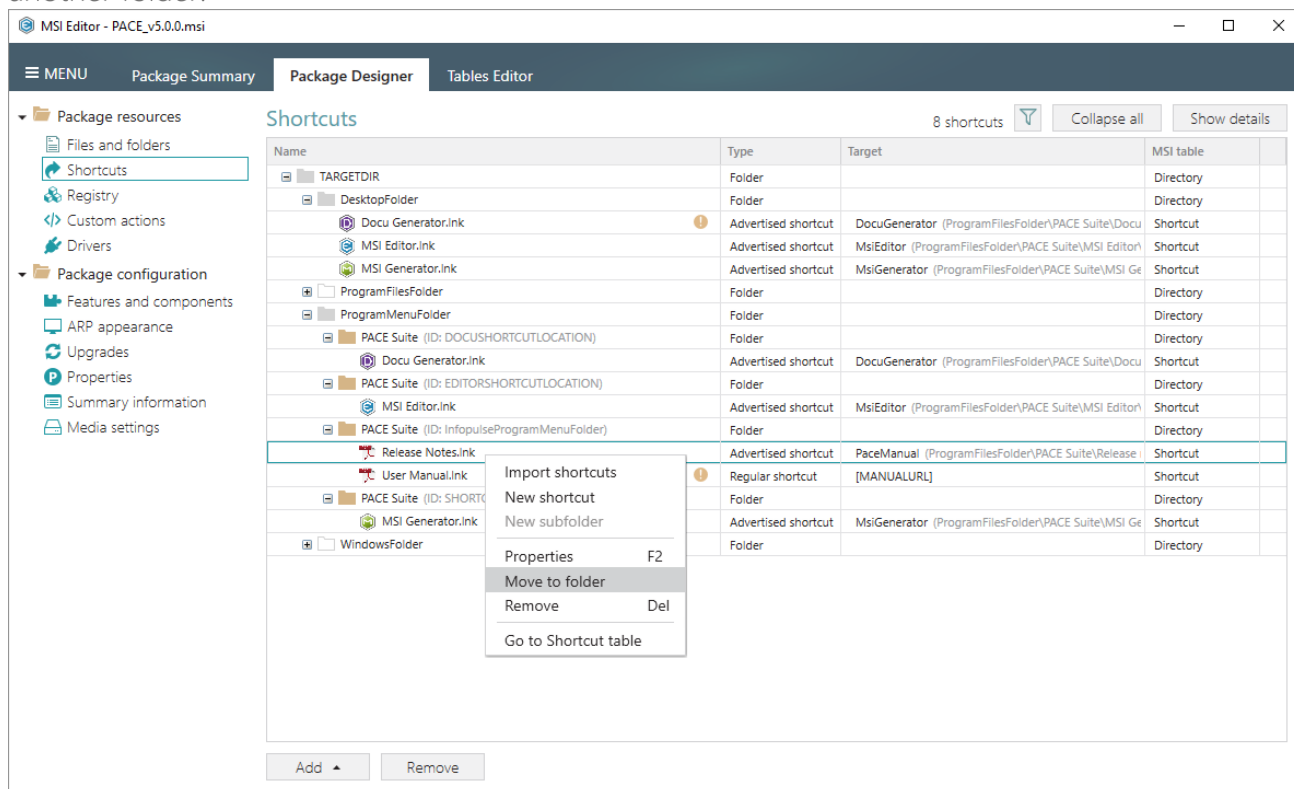
3.7.5.3 Move Shortcut

Move a shortcut to another folder.

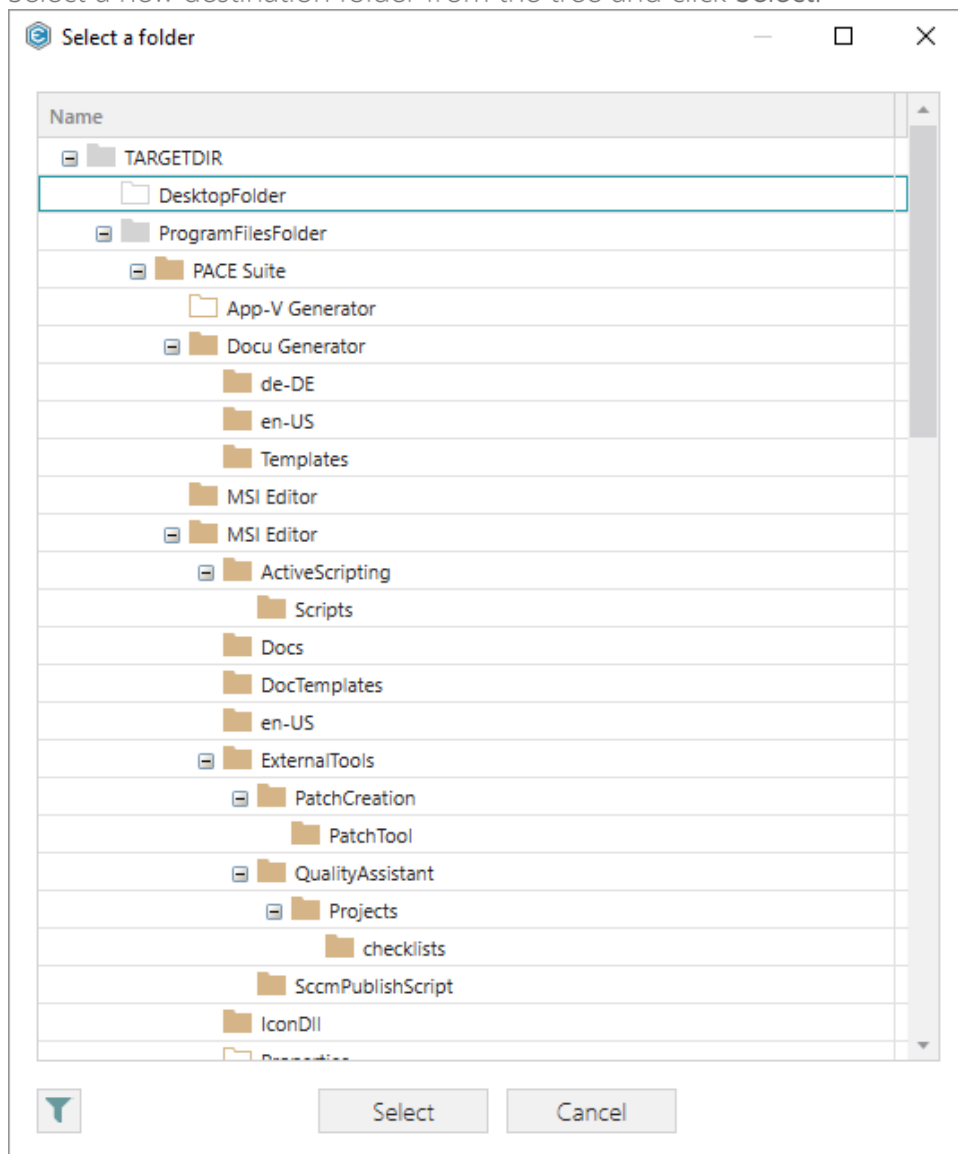
- Go to the Package Designer -> Shortcuts tab.



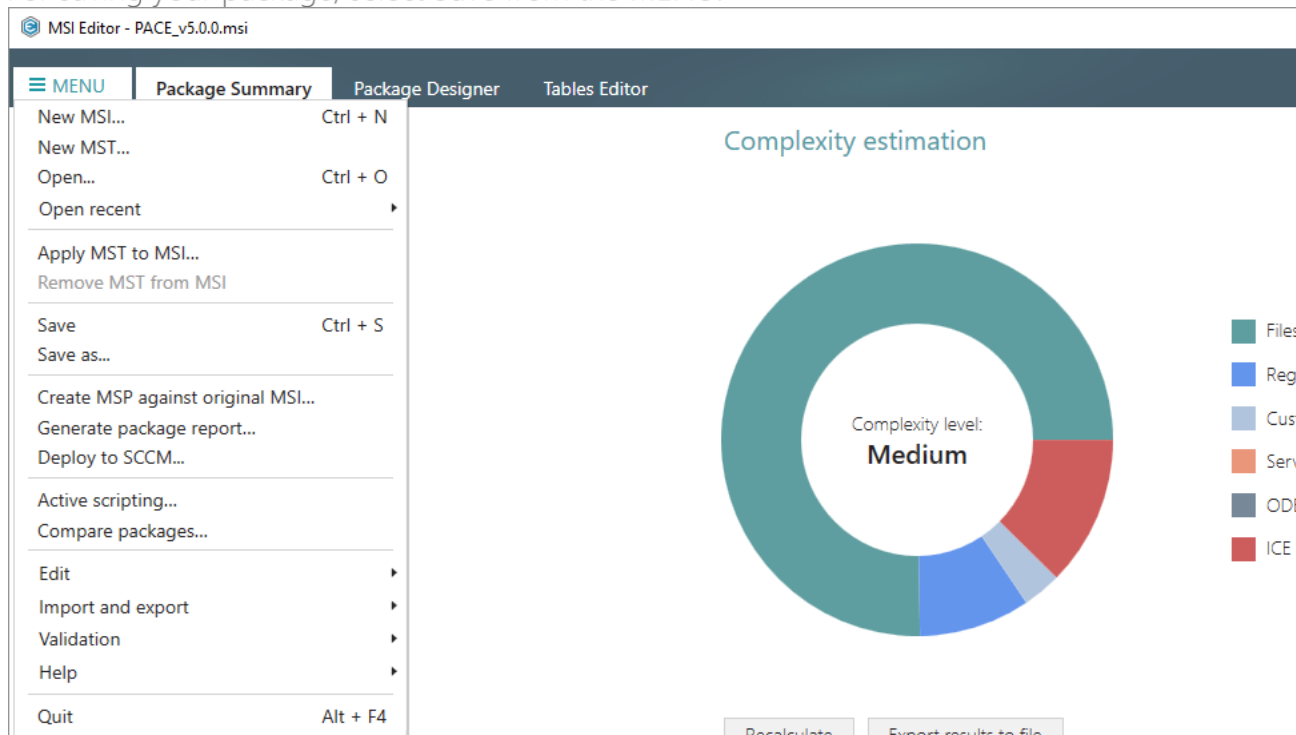
- Select Move to folder from the context menu of a shortcut, which you want to move to another folder.



- Select a new destination folder from the tree and click Select.



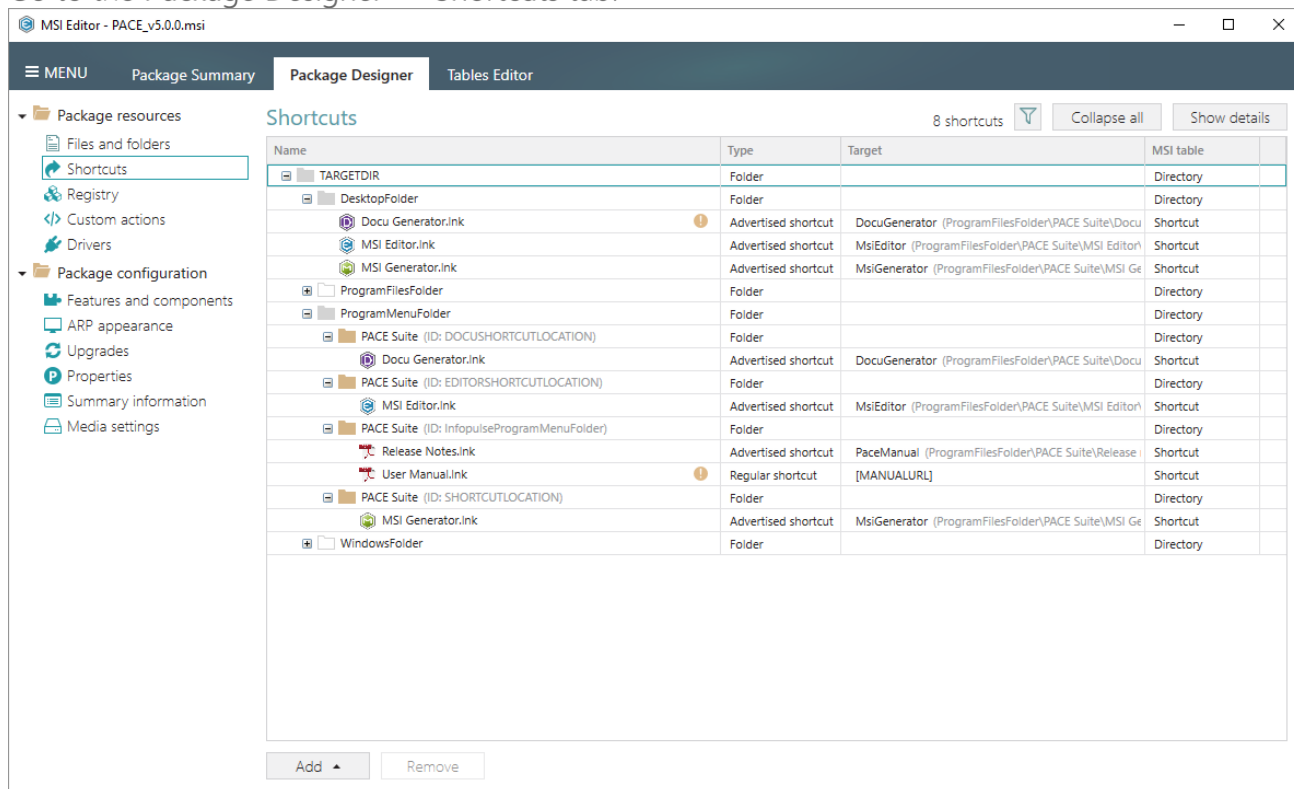
- For saving your package, select Save from the MENU.



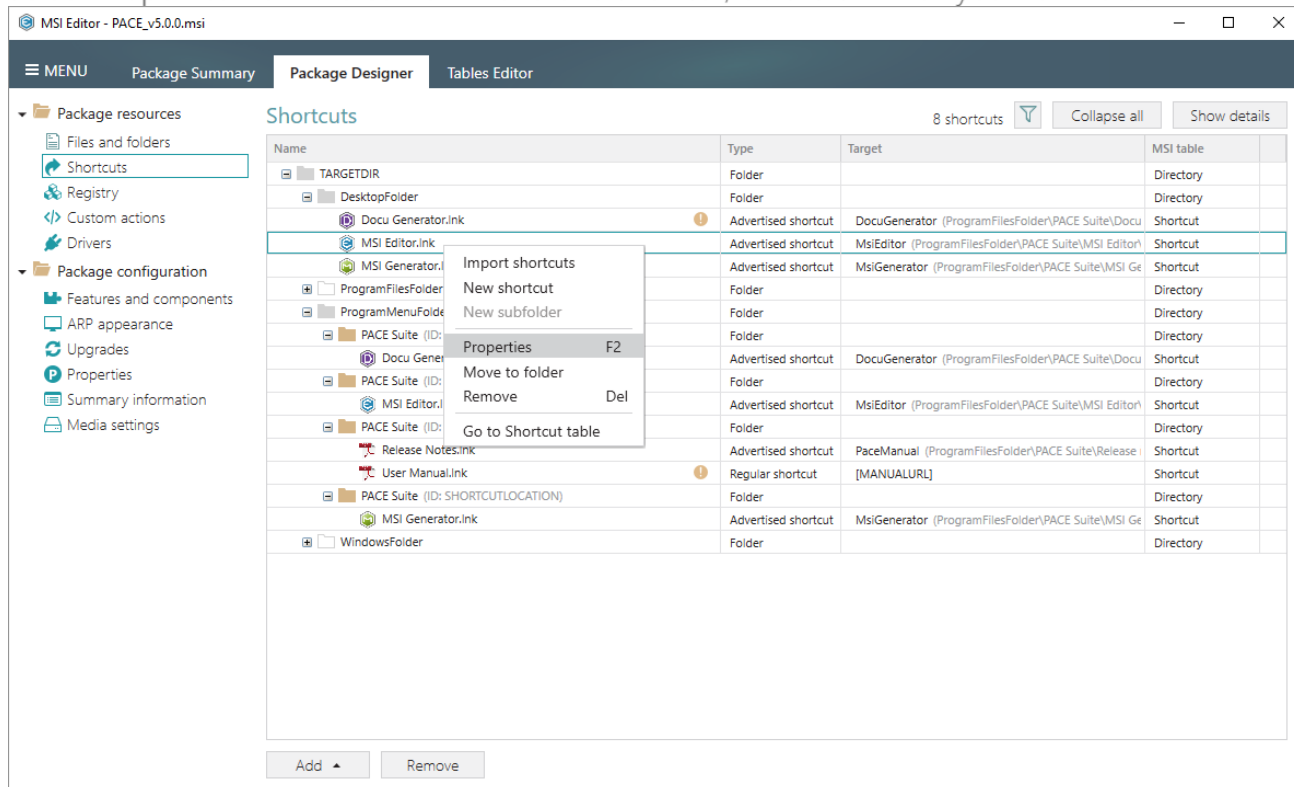
3.7.5.4 Edit Shortcut Properties

Edit shortcut details such as icon, name, installation folder, shortcut type, arguments, description and the like.

- Go to the Package Designer -> Shortcuts tab.



- Select Properties from the context menu of a shortcut, details of which you want to edit.



- Update the necessary values such as icon, shortcut name, installation folder, type, arguments, description, hot key and so on. Afterwards, click Save.

Properties

MSI table: 'Shortcut'

Name: MSI Editor Identifier: MsiEditor.exe_shortcut_desktop

Target (installation) folder: DesktopFolder (ID: DesktopFolder) Browse...

General

Shortcut type:
☒ Advertised shortcut
☐ Regular (non-advertised) shortcut

Shortcut target: MsiEditor (ProgramFilesFolder\PACE Suite\MSI Editor\MsiEditor.exe) Browse...

Arguments:

Start in (WkDir): Folder
ProgramFilesFolder\PACE Suite\MSI Editor (ID: EDITORINSTALLDIR) Browse...

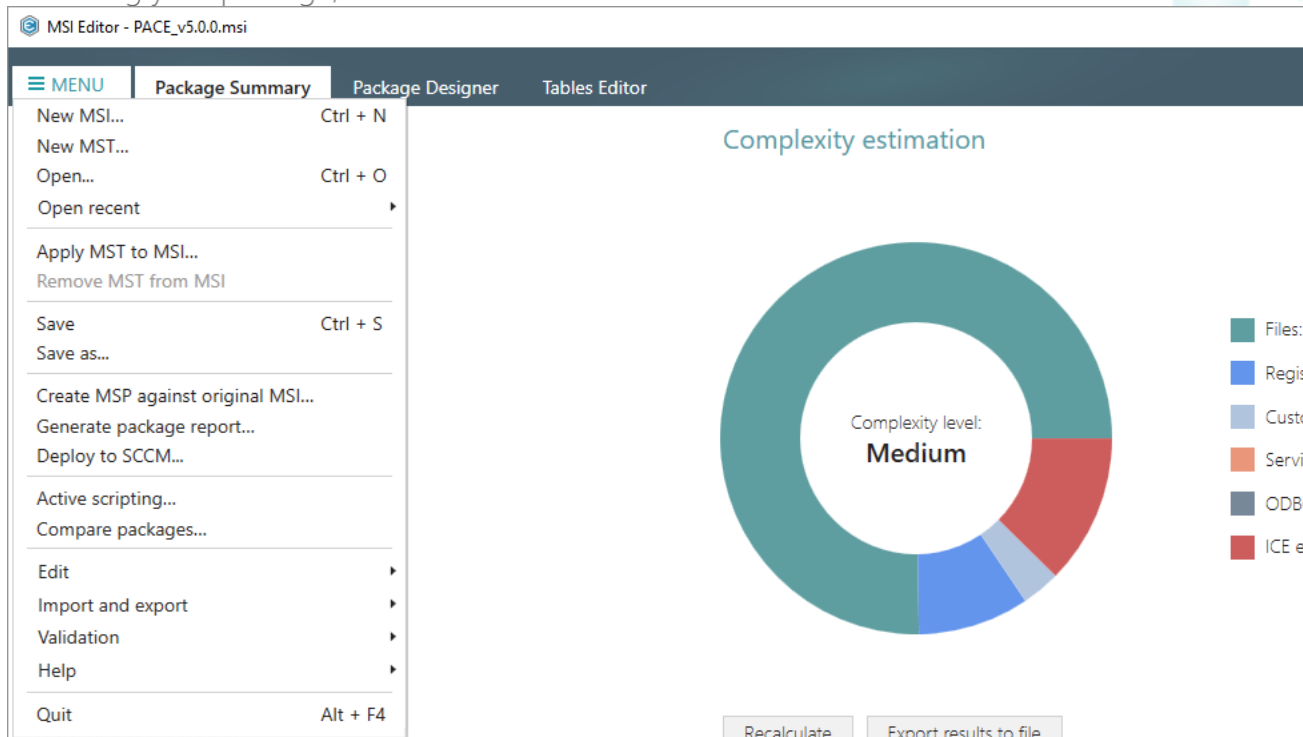
Details

Component_: MsiEditor.exe Run: Normal window

Description: MSI Editor.exe Hot key:

Save Cancel

- For saving your package, select Save from the MENU.



3.7.6 Registry

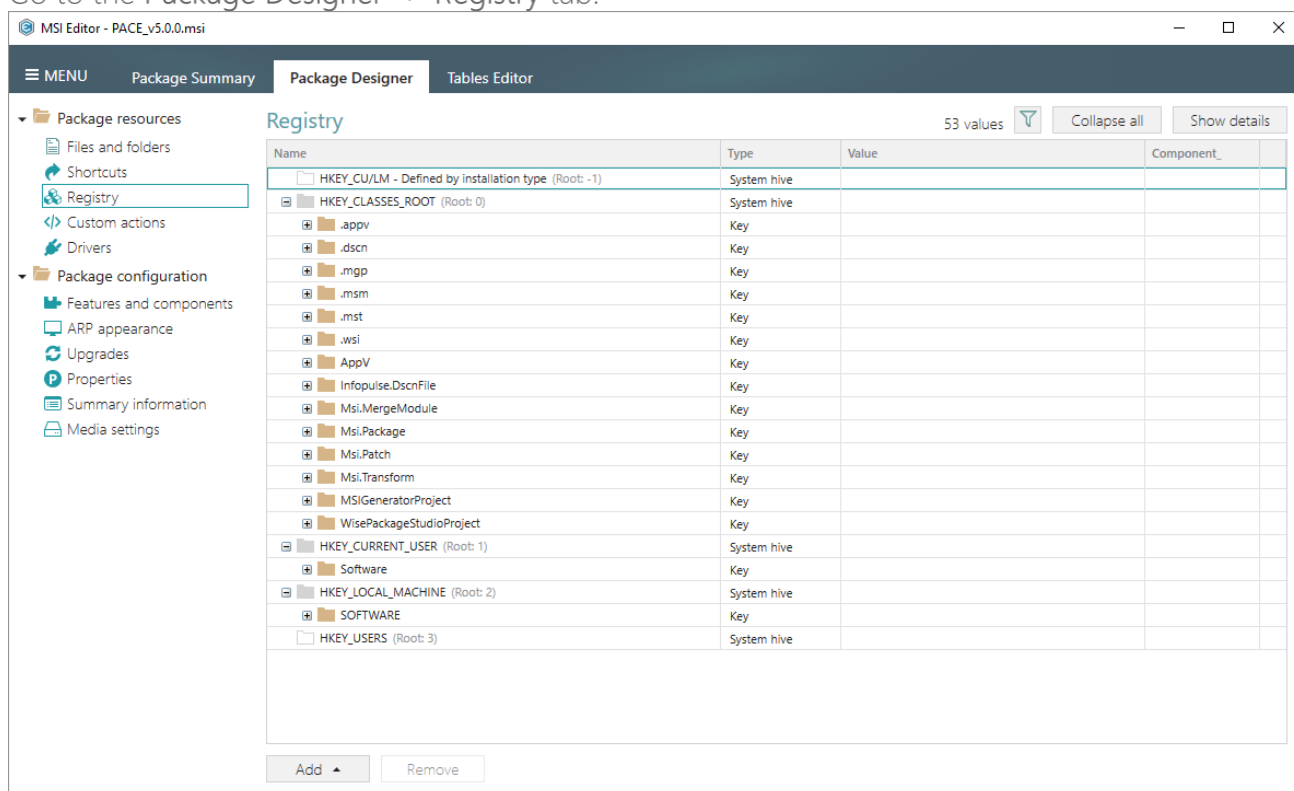
Choose a scenario that better suits your needs:

- **Add Registry Key**, described in section 3.7.6.1
Add a new registry key or sub-key manually.
- **Add Registry Value**, described in section 3.7.6.2
Add a new registry value manually.
- **Add ActiveSetup**, described in section 3.7.6.2.1
Intergrate ActiveSetup into your package to propagate the per-user resources for every logged-in user of the system.
- **Add Value/Key Removal**, described in section 3.7.6.3
Add the RemoveRegistry to force a registry value or key removal on install.
- **Import Registry**, described in section 3.7.6.4
Import registry from the REG file.
- **Export Registry**, described in section 3.7.6.5
Export the selected registry to the REG file.
- **Set Permissions**, described in section 3.7.6.6
Set custom permissions for the registry key.
- **Remove Permissions**, described in section 3.7.6.7
Locate registry key with custom permissions and remove the unnecessary permissions.
- **Move Value, Key**, described in section 3.7.6.8
Move a registry value or a key from one parent key to another one.
- **Edit Registry Key**, described in section 3.7.6.9
Modify details and options of the selected registry key.
- **Edit Registry Value**, described in section 3.7.6.10
Modify details of the selected registry value.
- **Edit Value/Key Removal**, described in section 3.7.6.11
Modify details of the selected value/key removal item (RemoveRegistry) to secure a value or a key removal during the package installation.

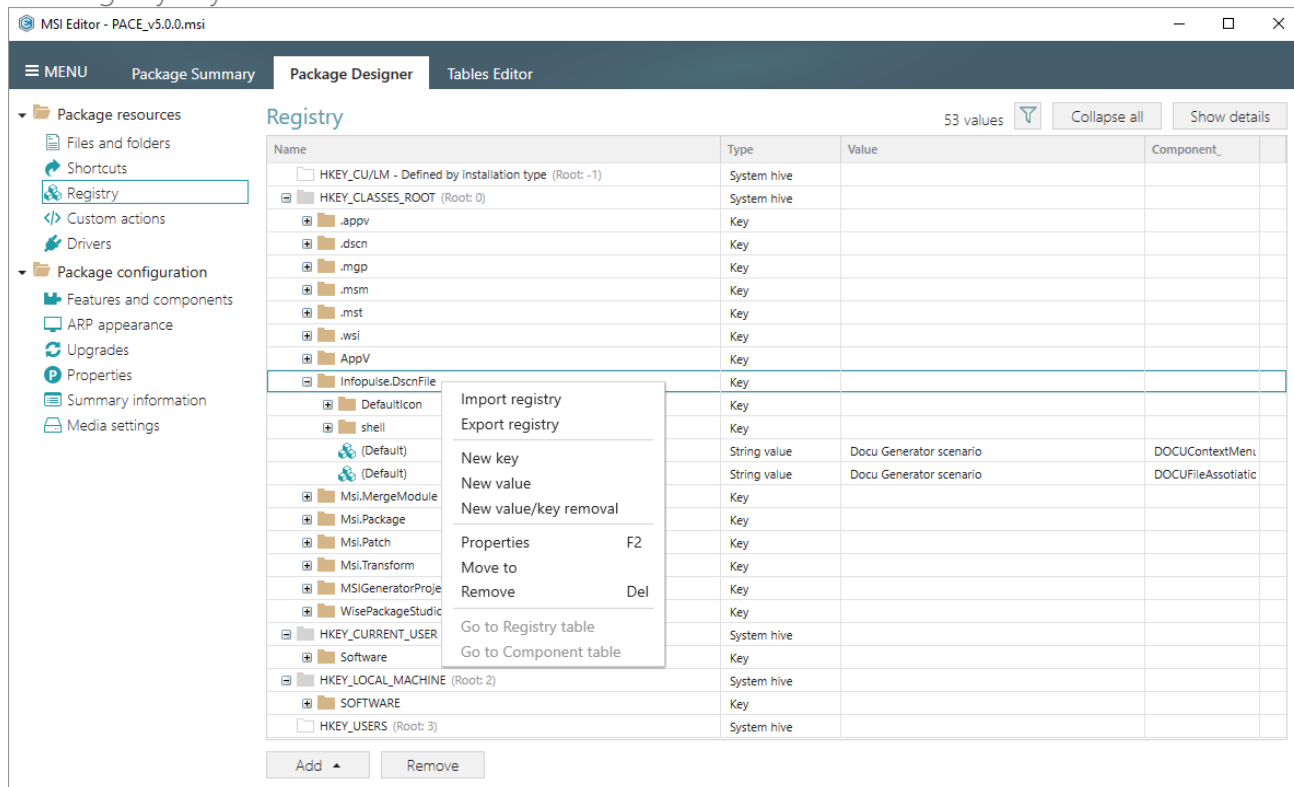
3.7.6.1 Add Registry Key

Add a new registry key or sub-key manually.

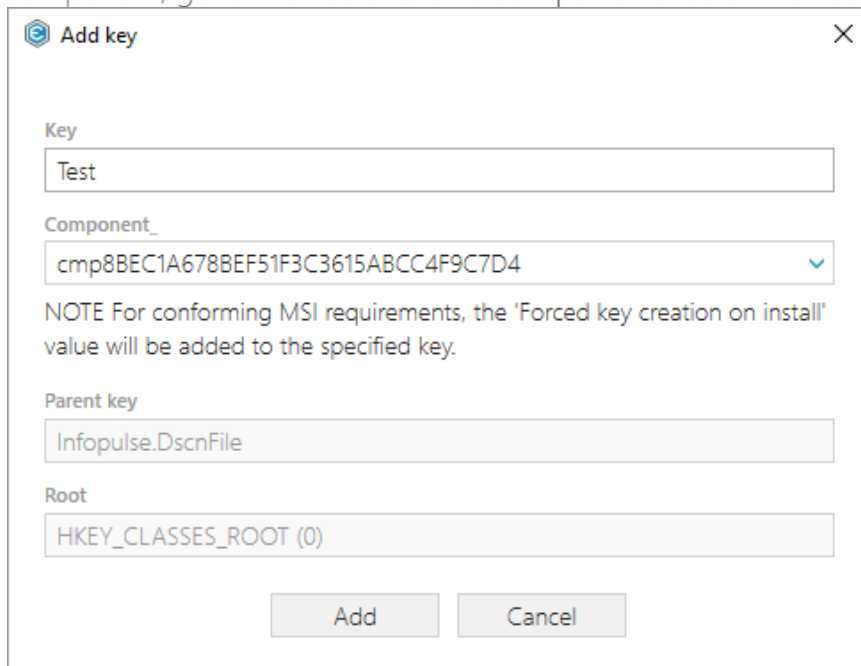
- Go to the Package Designer -> Registry tab.



- Select New key from the context menu of a root hive or a key, where you want to create a new registry key.



- Enter a key name, select a component from the list, then click **Add**. For creating a new component, go to the **Features and Components** tab of the Package Designer.



Add key [X]

Key

Component_

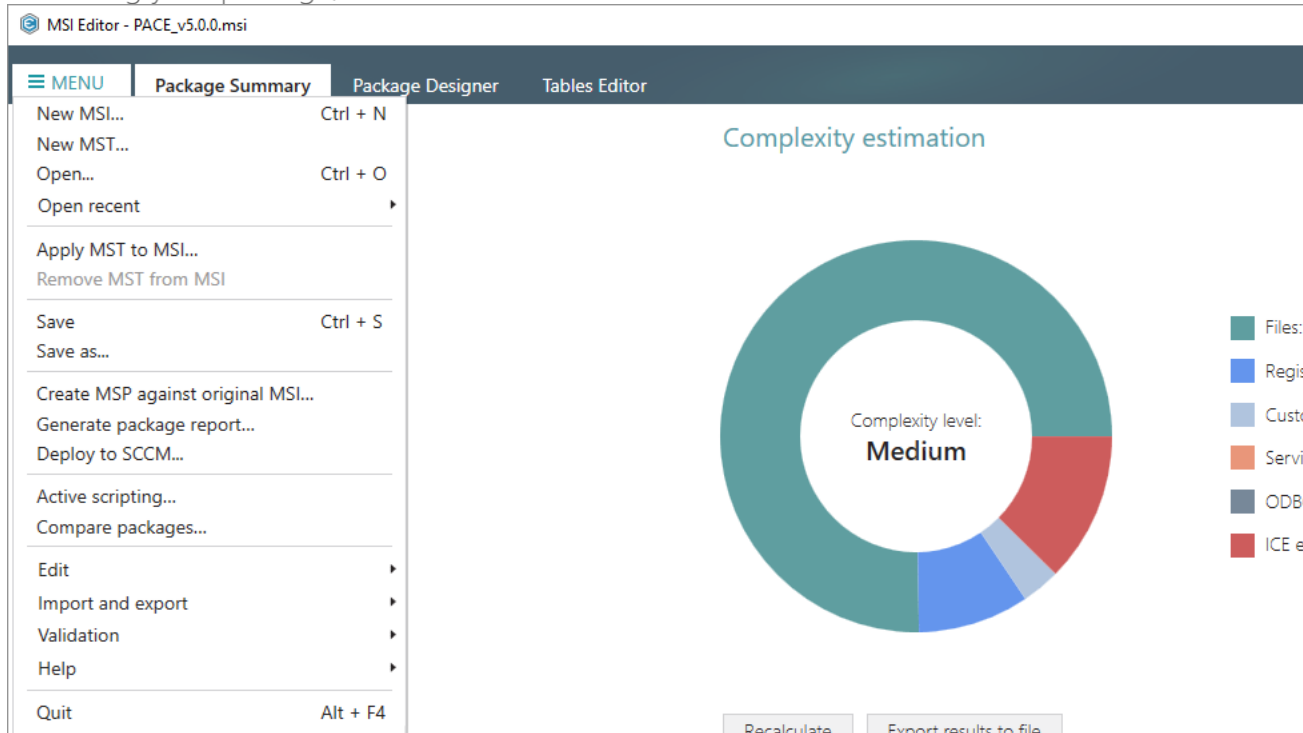
NOTE For conforming MSI requirements, the 'Forced key creation on install' value will be added to the specified key.

Parent key

Root

Add **Cancel**

- For saving your package, select **Save** from the **MENU**.



MSI Editor - PACE_v5.0.0.msi

MENU | Package Summary | Package Designer | Tables Editor

New MSI... Ctrl + N
 New MST...
 Open... Ctrl + O
 Open recent ▶
 Apply MST to MSI...
 Remove MST from MSI
 Save Ctrl + S
 Save as...
 Create MSP against original MSI...
 Generate package report...
 Deploy to SCCM...
 Active scripting...
 Compare packages...
 Edit ▶
 Import and export ▶
 Validation ▶
 Help ▶
 Quit Alt + F4

Complexity estimation

Complexity level:
Medium

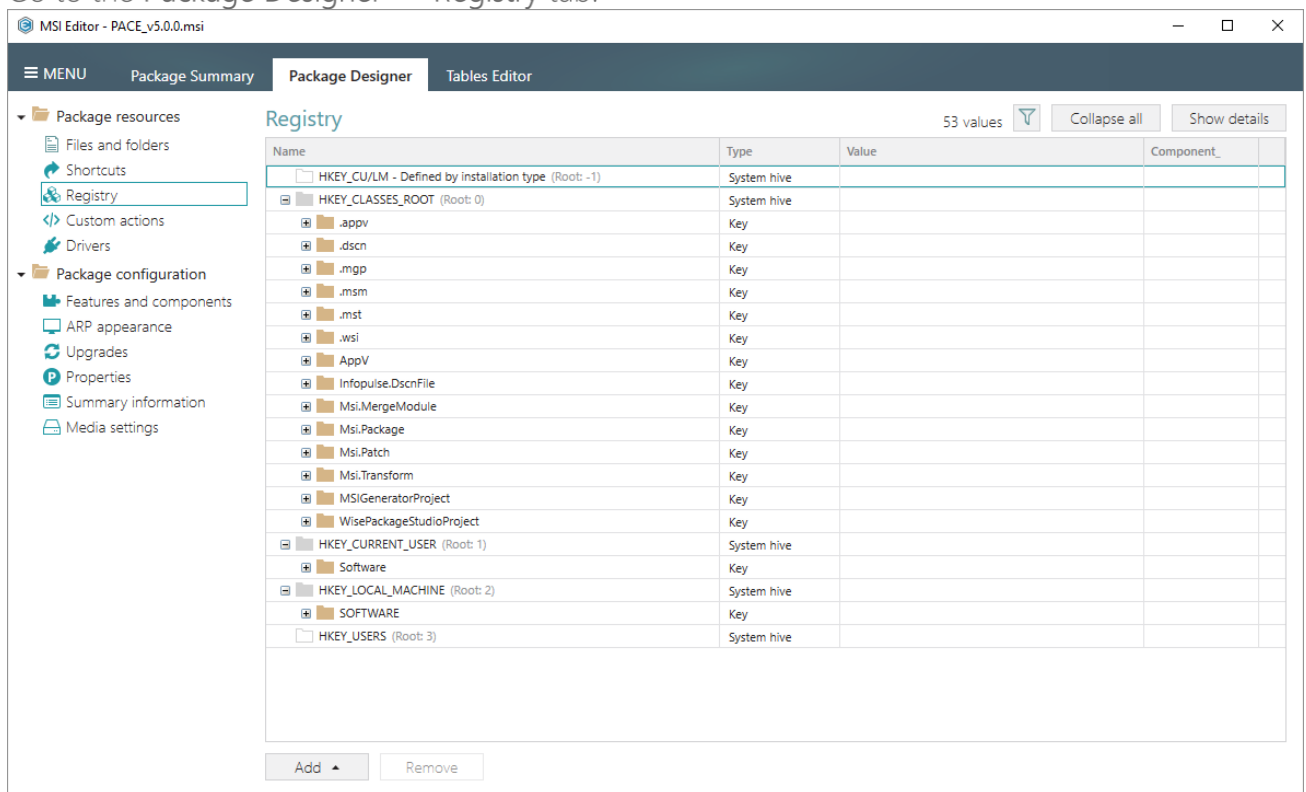
Files: [Dark Teal]
 Regis: [Blue]
 Custr: [Light Blue]
 Servi: [Orange]
 ODB: [Dark Grey]
 ICE: [Red]

Recalculate Export results to file

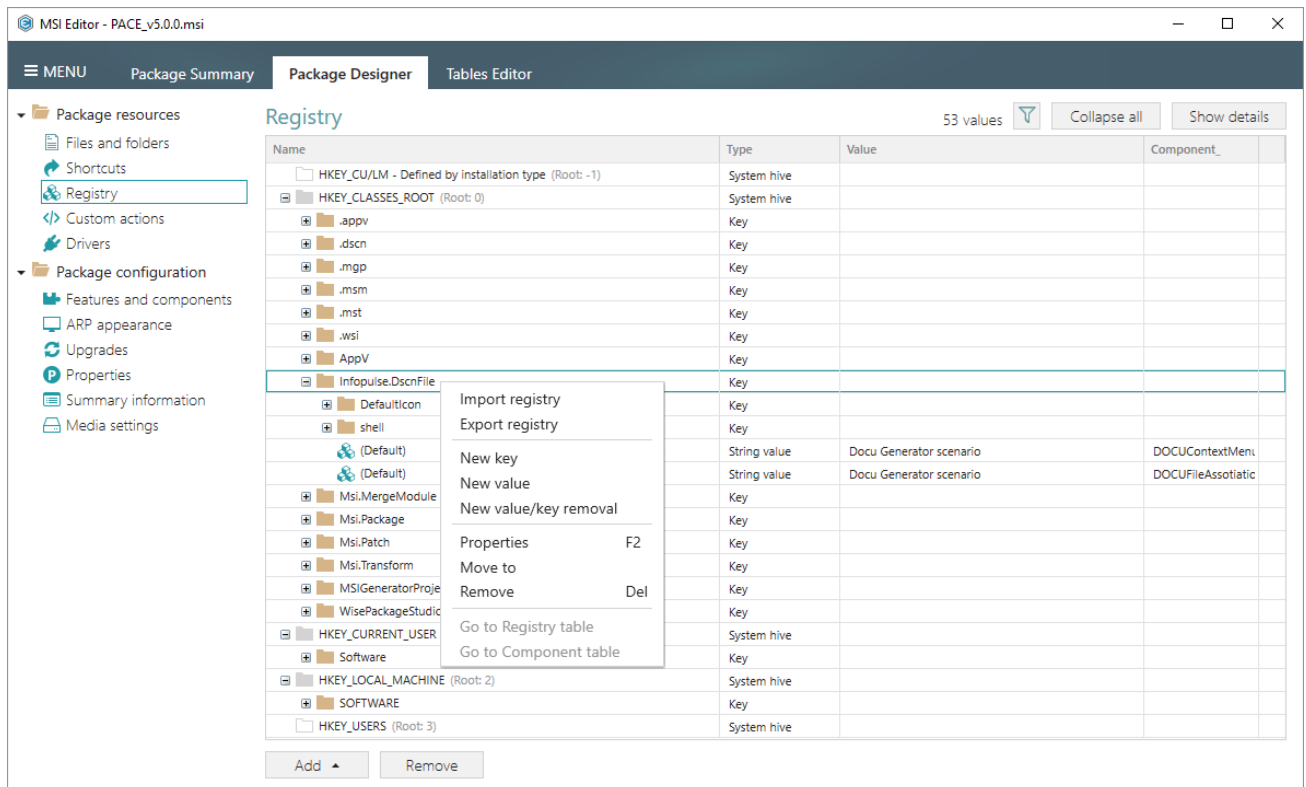
3.7.6.2 Add Registry Value

Add a new registry value manually.

- Go to the Package Designer -> Registry tab.



- Select New value from the context menu of a key, where you want to create a new registry value.



- For creating an ordinary registry value, just specify a **Name**, **Value** itself, select a **Component** from the list, to which this value will be assigned, and then click **Save**.

For creating a Default key value, or securing an empty key creation on install and/or its removal on uninstall, select a respective option from the **Value processing method** field.

The **Parsed value** option serves easier creation of a registry value of the proper value type. However, the **Raw MSI value** option gives ability to manage what exactly will be saved to the opened MSI database.

Properties

MSI table: 'Registry'

Value processing method

1. Set both name and value

Name **Identifier**

Test reg_08a3c81a

Value

☒ **Parsed value**

Type

String value (REG_SZ)

Value

Test

☐ **Raw MSI value**

Test

Key

Infopulse.DscnFile Browse...

Root

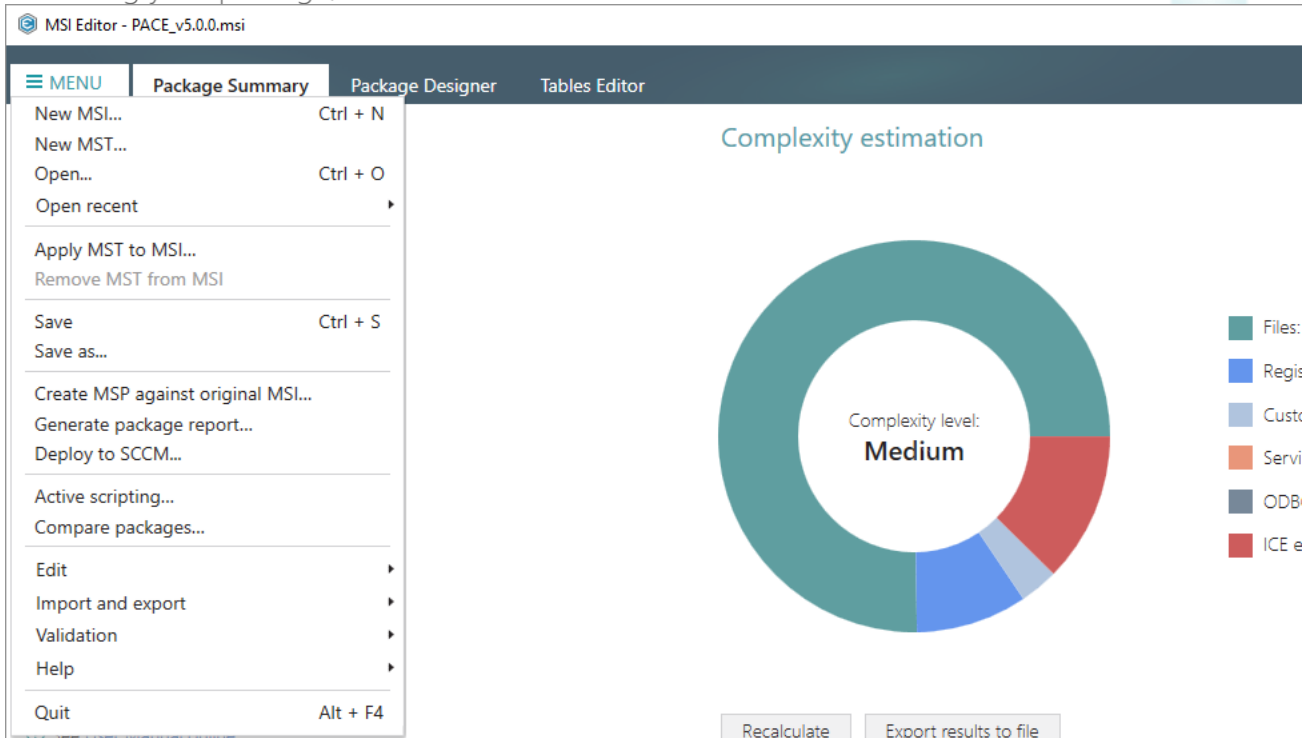
HKEY_CLASSES_ROOT (0)

Component

cmp8BEC1A678BEF51F3C3615ABCC4F9C7D4

Save Cancel

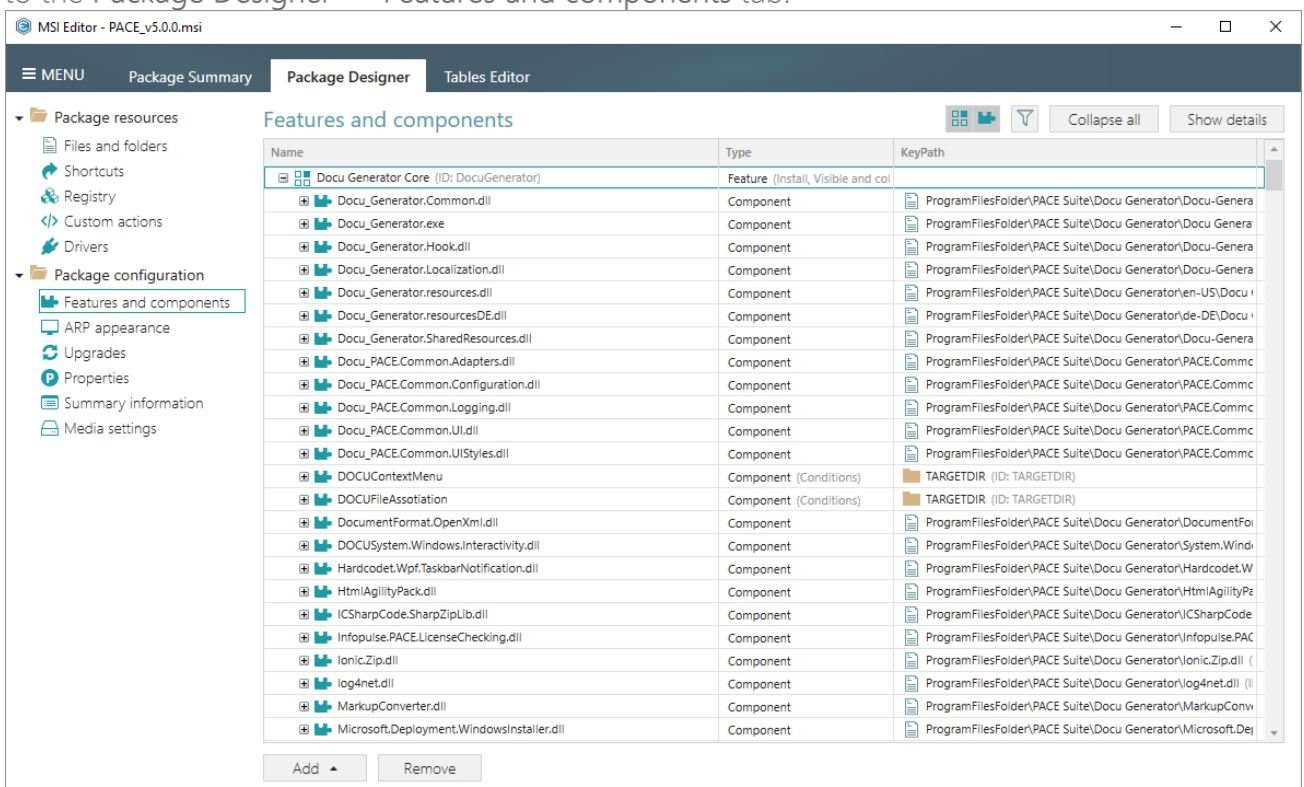
- For saving your package, select Save from the MENU.



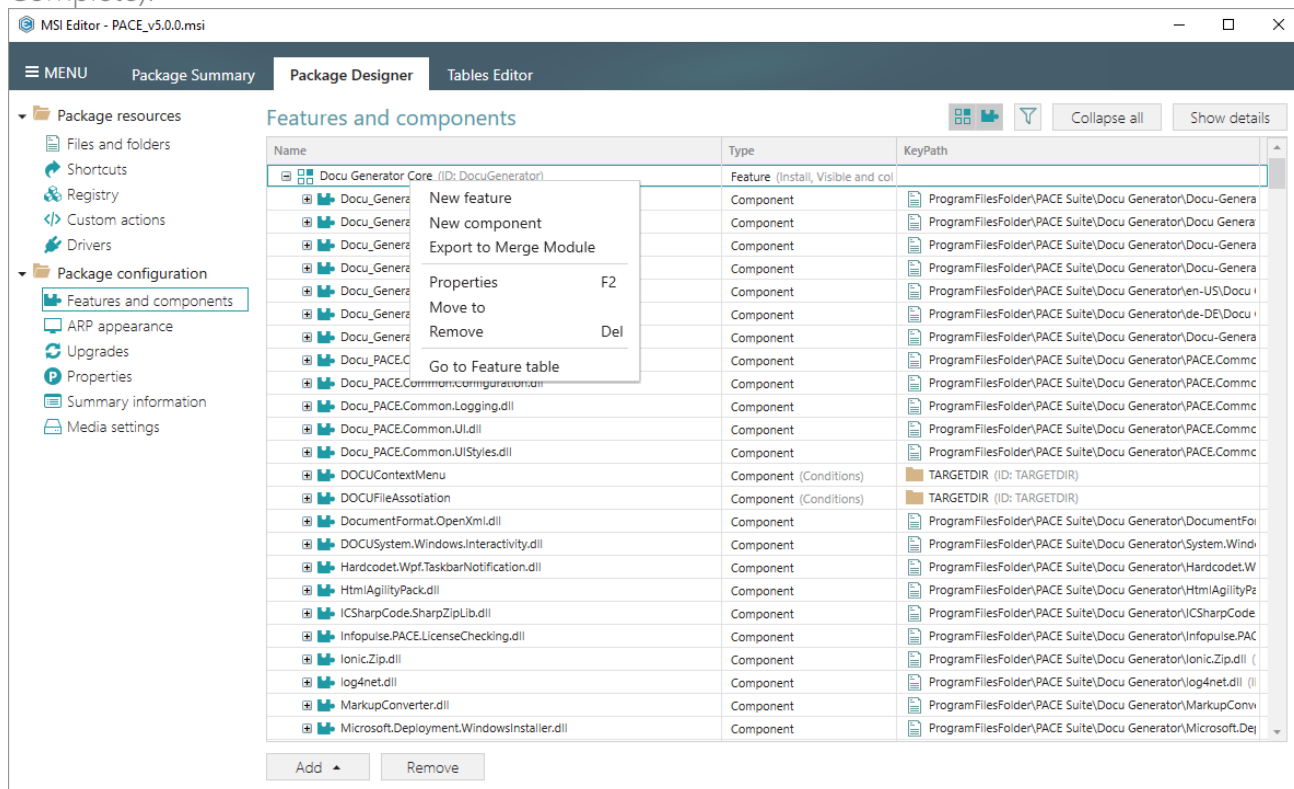
3.7.6.2.1 Add ActiveSetup

Intergrate ActiveSetup into your package to propagate the per-user resources for every logged-in user of the system. The ActiveSetup is represented as the registry value that triggers the repair function of the Windows Installer during the next user log-in in order to restore the missing resources.

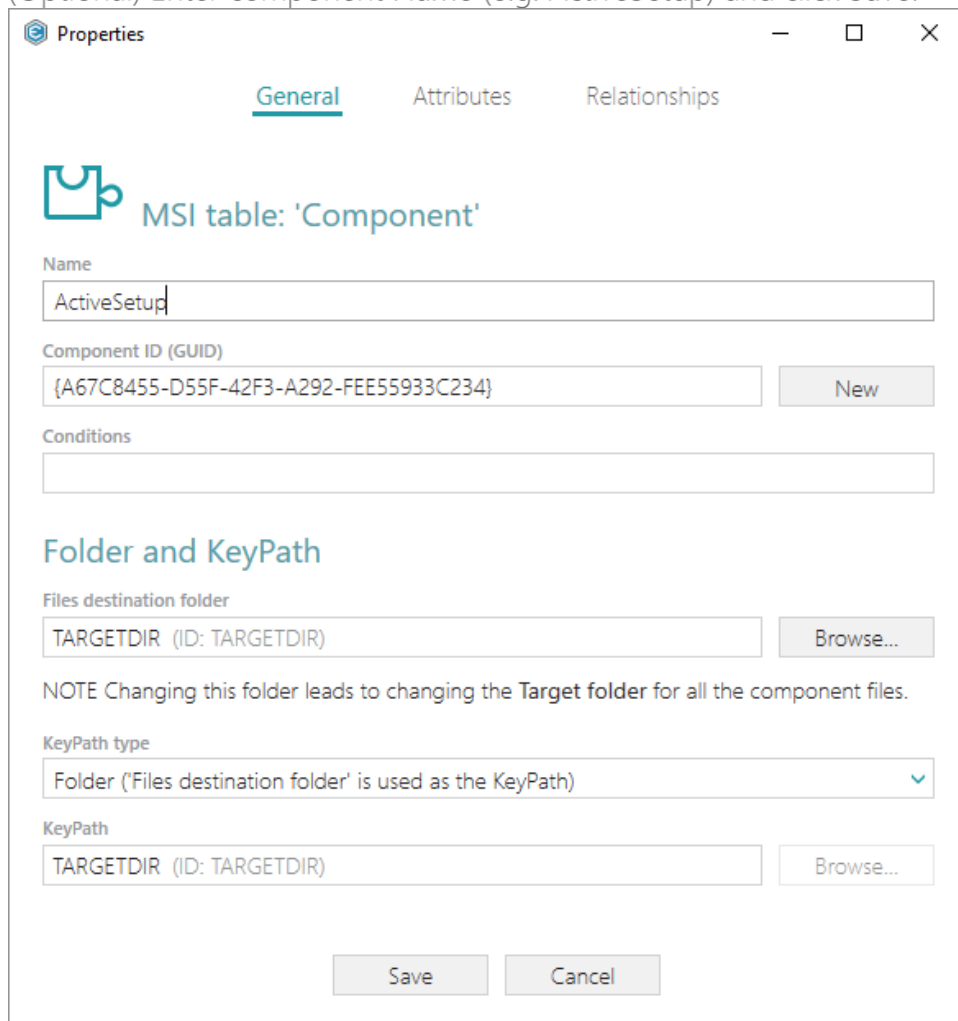
- (Optional) First, create a new component for the ActiveSetup registry key. Alternatively, you can use the existing component with the per-machine resources. To create a component, go to the Package Designer -> Features and components tab.



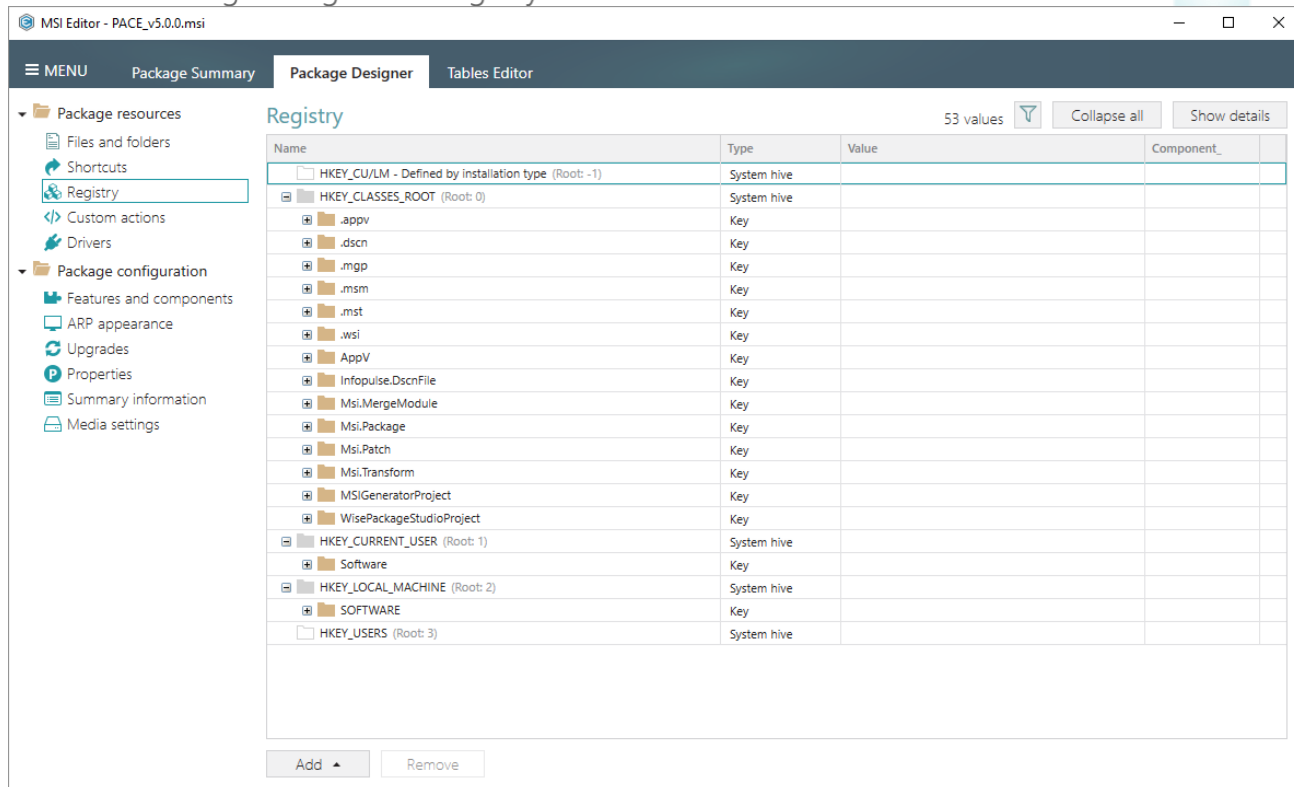
- (Optional) Select New component from the context menu of any feature. It is recommended to use feature that always will be installed and contains per-machine resources (e.g. Complete).



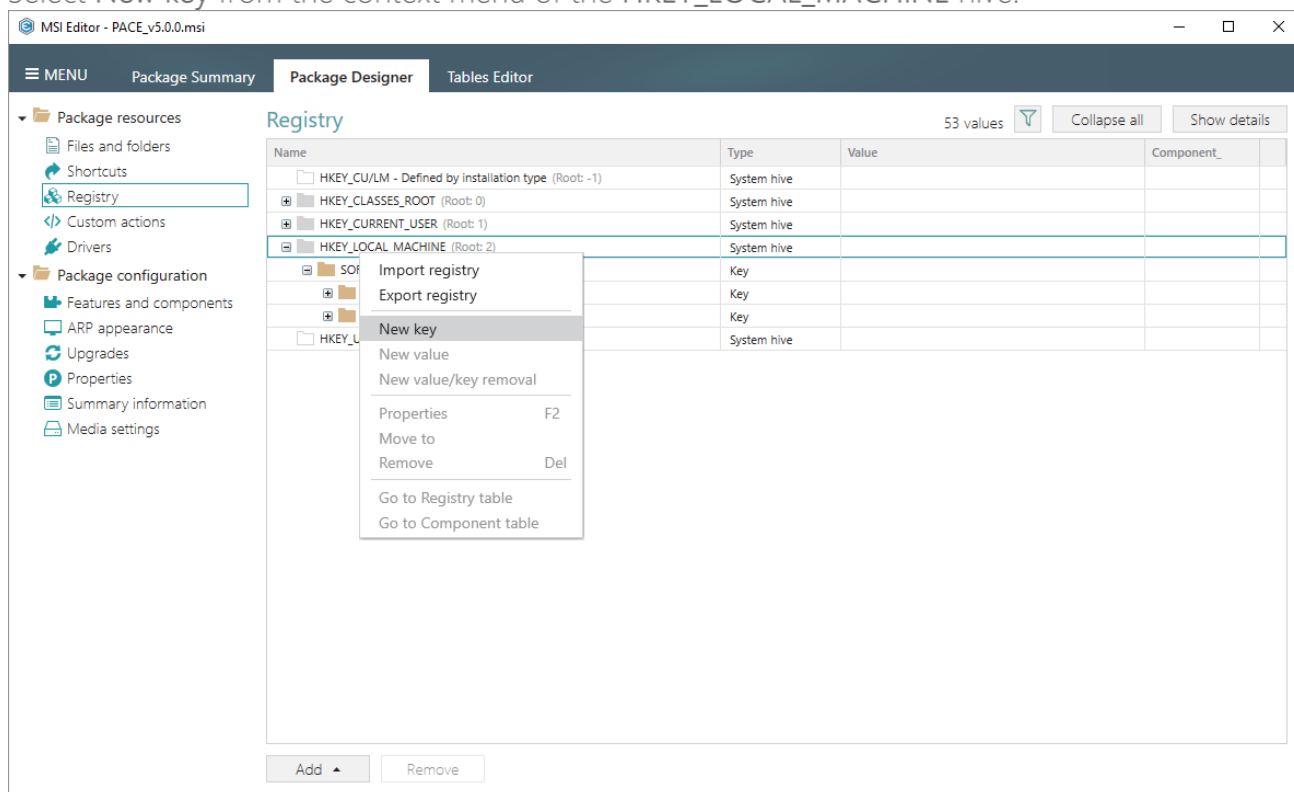
- (Optional) Enter component Name (e.g. ActiveSetup) and click Save.



- Go to the Package Designer -> Registry tab.

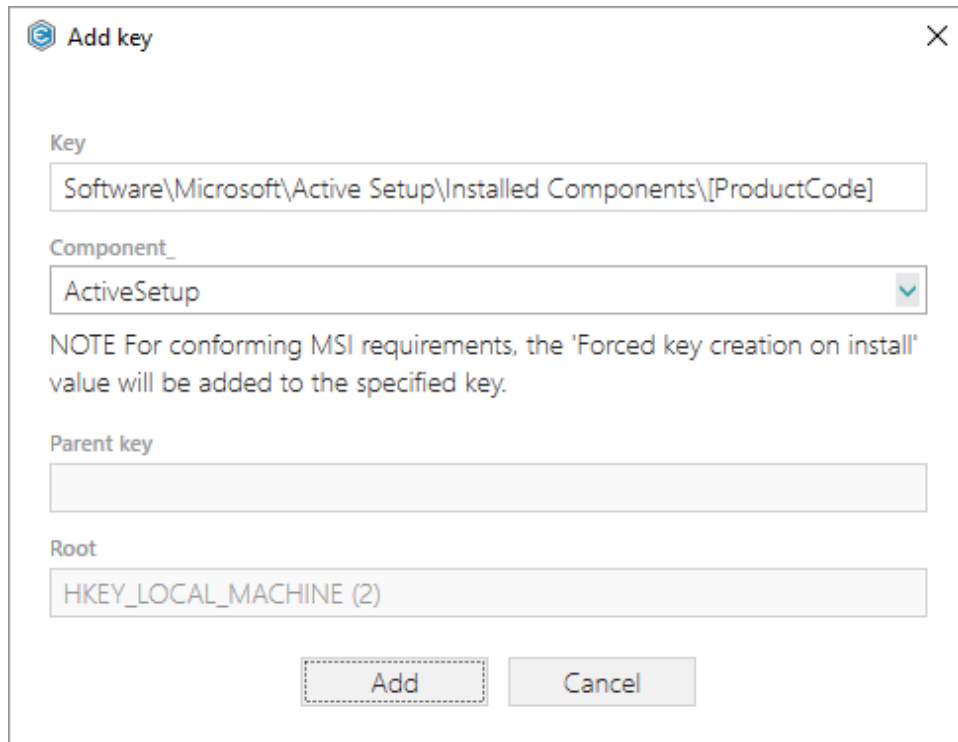


- Select New key from the context menu of the HKEY_LOCAL_MACHINE hive.



- Enter the Software\Microsoft\Active Setup\Installed Components\[ProductCode] key name, select the previously created ActiveSetup component (or use your existing component) and

click Add.



Add key

Key
 Software\Microsoft\Active Setup\Installed Components\[ProductCode]

Component_
 ActiveSetup

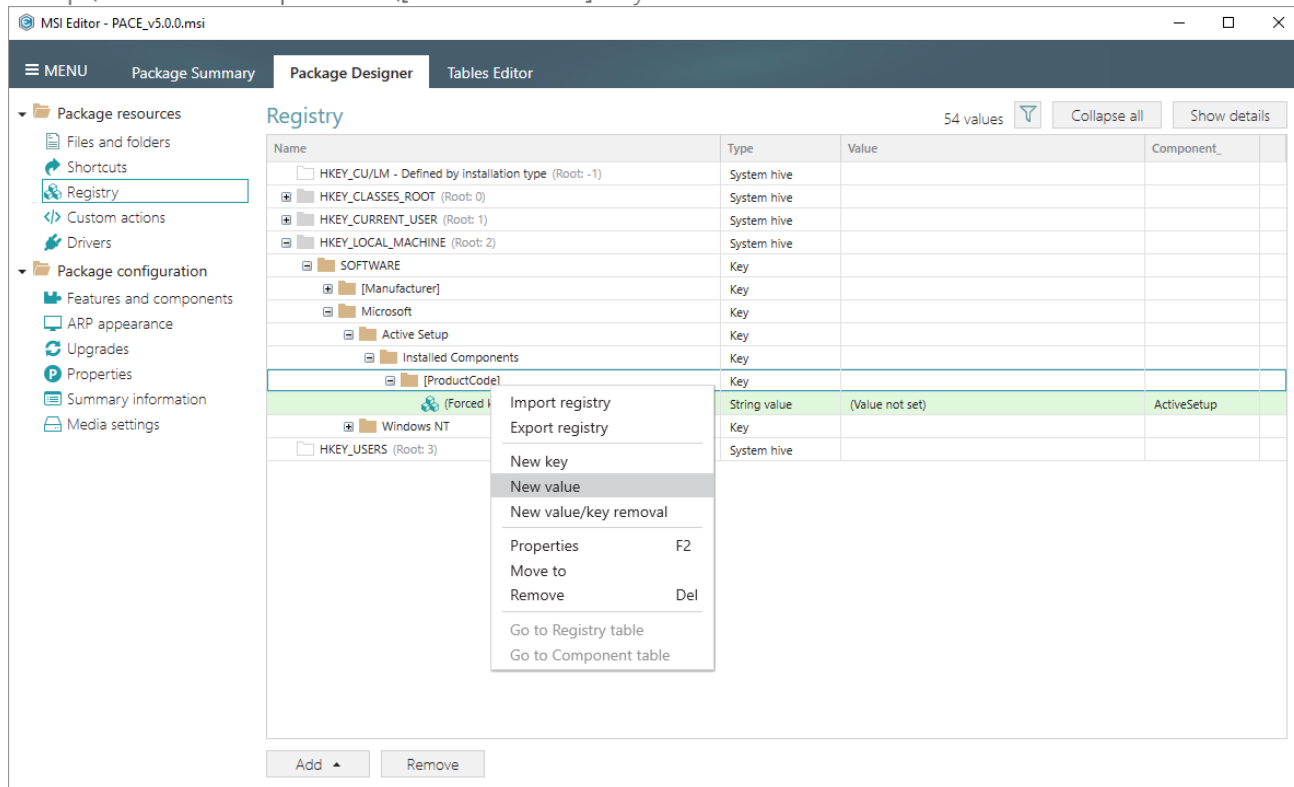
NOTE For conforming MSI requirements, the 'Forced key creation on install' value will be added to the specified key.

Parent key

Root
 HKEY_LOCAL_MACHINE (2)

Add **Cancel**

- Select New value from the context menu of the created Software\Microsoft\Active Setup\Installed Components\[ProductCode] key.



MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer Tables Editor

Package resources

- Files and folders
- Shortcuts
- Registry
- Custom actions
- Drivers

Package configuration

- Features and components
- ARP appearance
- Upgrades
- Properties
- Summary information
- Media settings

Registry 54 values Collapse all Show details

Name	Type	Value	Component_
HKEY_CU/LM - Defined by installation type (Root: -1)	System hive		
HKEY_CLASSES_ROOT (Root: 0)	System hive		
HKEY_CURRENT_USER (Root: 1)	System hive		
HKEY_LOCAL_MACHINE (Root: 2)	System hive		
SOFTWARE	Key		
[Manufacturer]	Key		
Microsoft	Key		
Active Setup	Key		
Installed Components	Key		
[ProductCode]	Key		
(Forced key creation on install)	String value	(Value not set)	ActiveSetup
Windows NT	Key		
HKEY_USERS (Root: 3)	System hive		

Context menu options:

- Import registry
- Export registry
- New key
- New value
- New value/key removal
- Properties F2
- Move to
- Remove Del
- Go to Registry table
- Go to Component table

Add **Remove**

- Enter the "StubPath" to Name, the "msiexec /fups [ProductCode] /qb" to Value, and select the previously created ActiveSetup component (or use your existing component) from the

Component_ field. Afterwards, click Save.

Properties

MSI table: 'Registry'

Value processing method
1. Set both name and value

Name: StubPath Identifier: reg_1e430083

Value
☒ **Parsed value**
 Type: String value (REG_SZ)
 Value: msiexec /fups [ProductCode] /qb
☐ Raw MSI value
 msiexec /fups [ProductCode] /qb

Key: Software\Microsoft\Active Setup\Installed Components\[ProductCode] Browse...

Root: HKEY_LOCAL_MACHINE (2)

Component_: ActiveSetup

Save Cancel

- For saving your package, select Save from the MENU.

MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer Tables Editor

New MSI... Ctrl + N
 New MST...
 Open... Ctrl + O
 Open recent
 Apply MST to MSI...
 Remove MST from MSI
 Save Ctrl + S
 Save as...
 Create MSP against original MSI...
 Generate package report...
 Deploy to SCCM...
 Active scripting...
 Compare packages...
 Edit
 Import and export
 Validation
 Help
 Quit Alt + F4

Complexity estimation

Complexity level: **Medium**

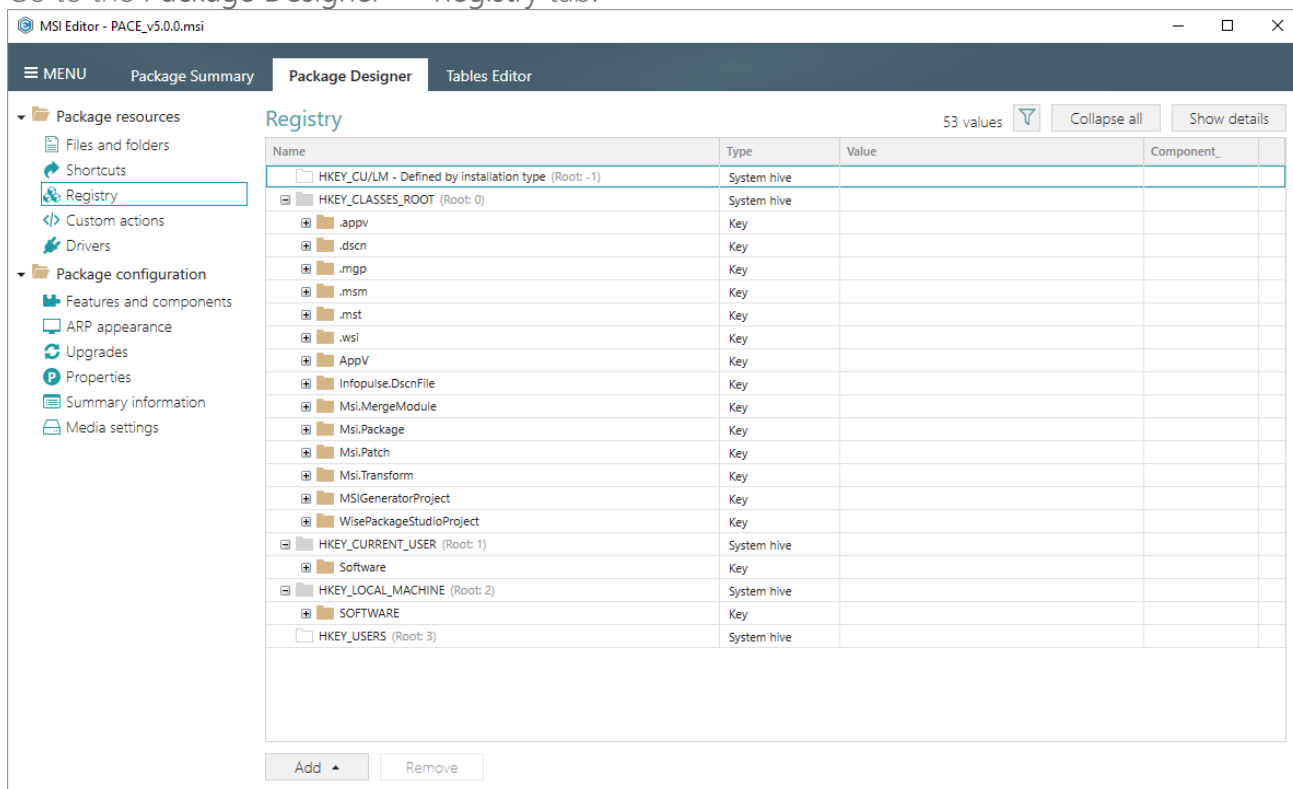
Files: (Dark Green)
 Regis: (Blue)
 Custr: (Light Blue)
 Servi: (Orange)
 ODB: (Dark Grey)
 ICE e: (Red)

Recalculate Export results to file

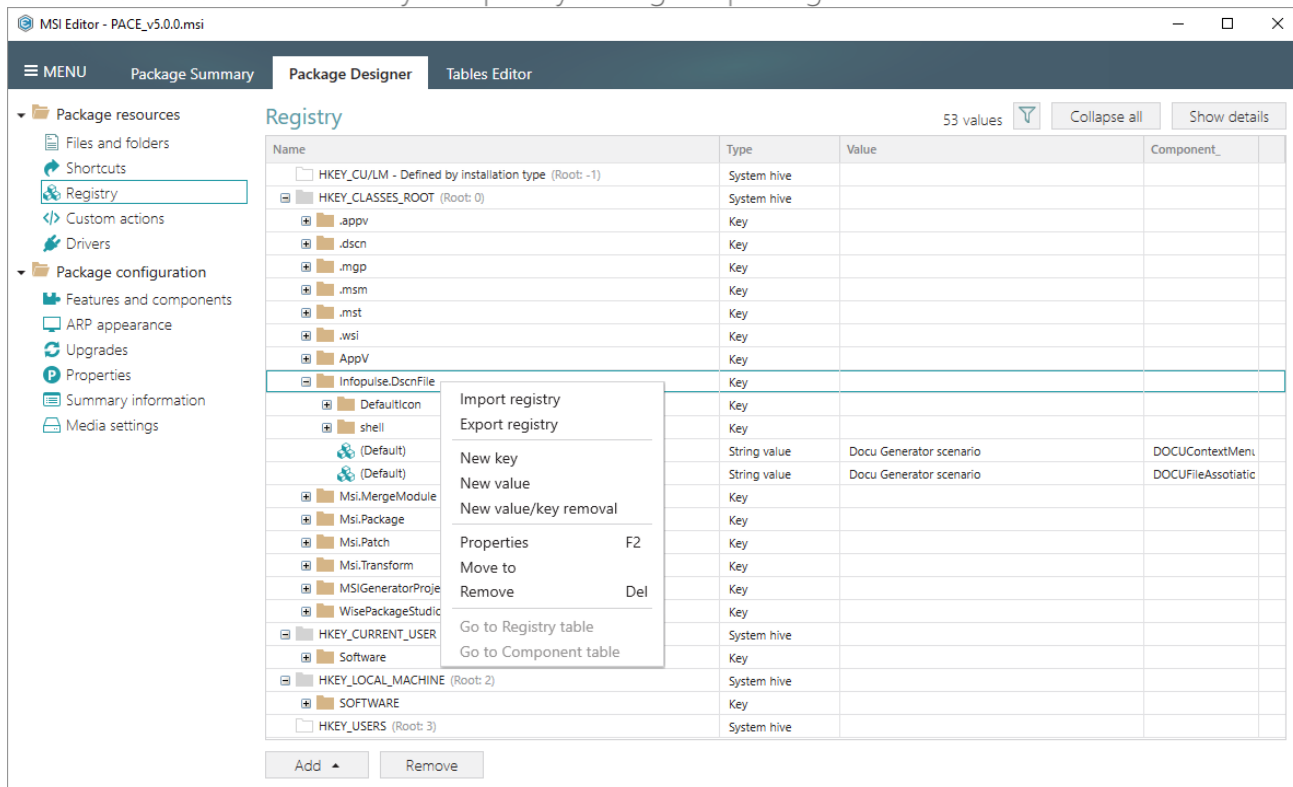
3.7.6.3 Add Value/Key Removal

Add the RemoveRegistry to force a registry value or key removal on install.

- Go to the Package Designer -> Registry tab.

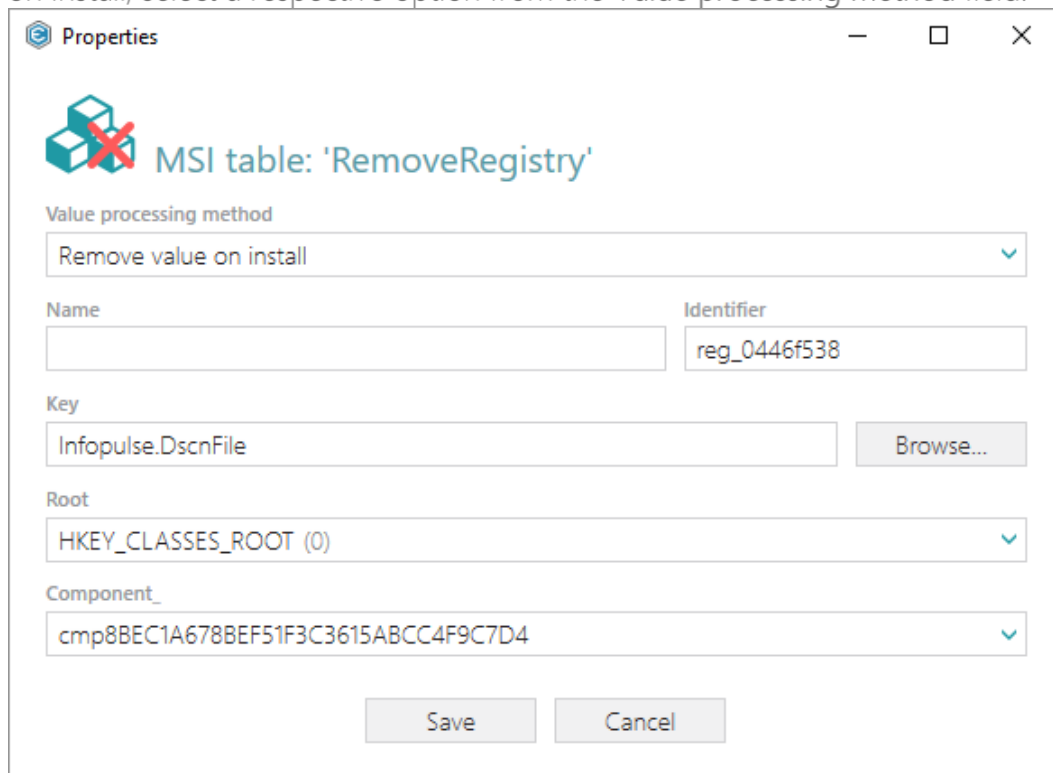


- Select New value/key removal from the context menu of a key, from which you want to remove a value or a whole key completely during the package installation.



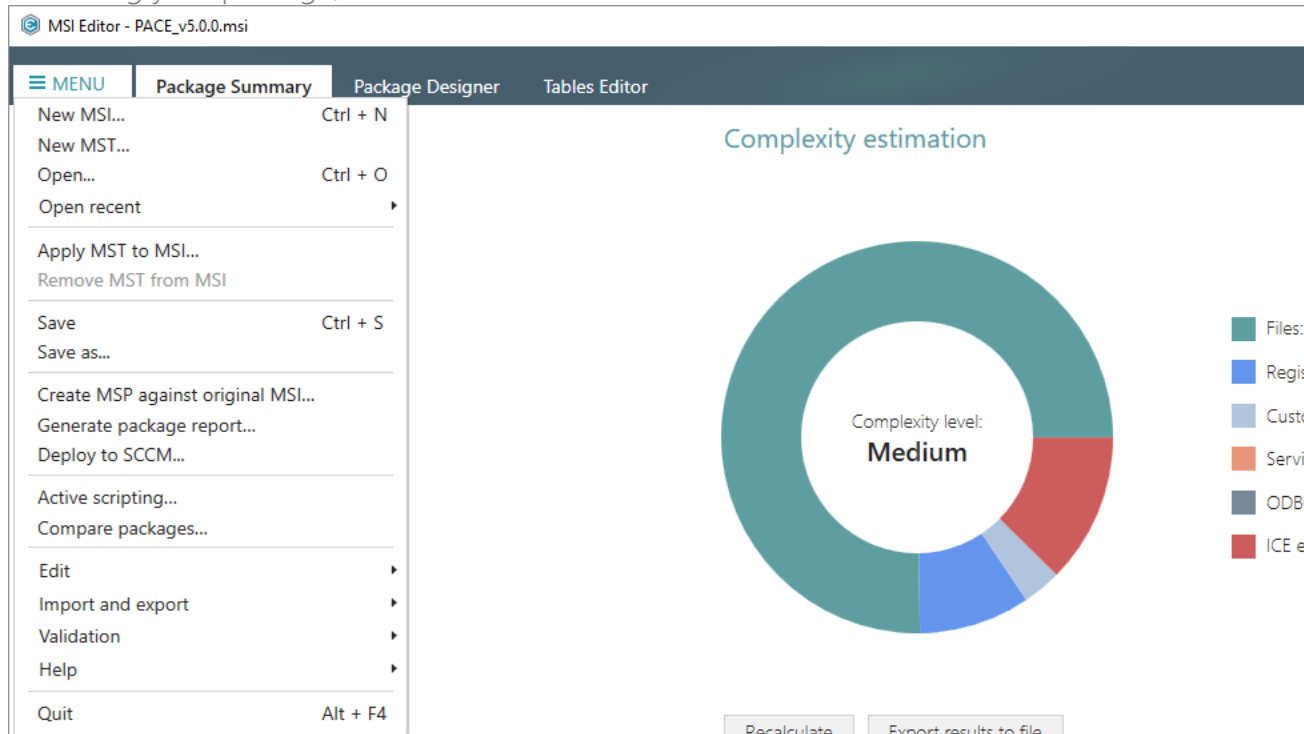
- For removing a registry value, specify its **Name**, select a **Component** from the list, which will controls the deletion of thee specified registry value, and then click **Save**.

For cleaning-up a Default key value, or removing a whole key with all of its values and subkeys on install, select a respective option from the **Value processing method** field.



The 'Properties' dialog box for the MSI table 'RemoveRegistry' is shown. It features a 'Value processing method' dropdown set to 'Remove value on install'. The 'Name' field is empty, and the 'Identifier' field contains 'reg_0446f538'. The 'Key' field contains 'Infopulse.DscnFile' with a 'Browse...' button next to it. The 'Root' dropdown is set to 'HKEY_CLASSES_ROOT (0)'. The 'Component_' dropdown is set to 'cmp8BEC1A678BEF51F3C3615ABCC4F9C7D4'. At the bottom are 'Save' and 'Cancel' buttons.

- For saving your package, select **Save** from the **MENU**.

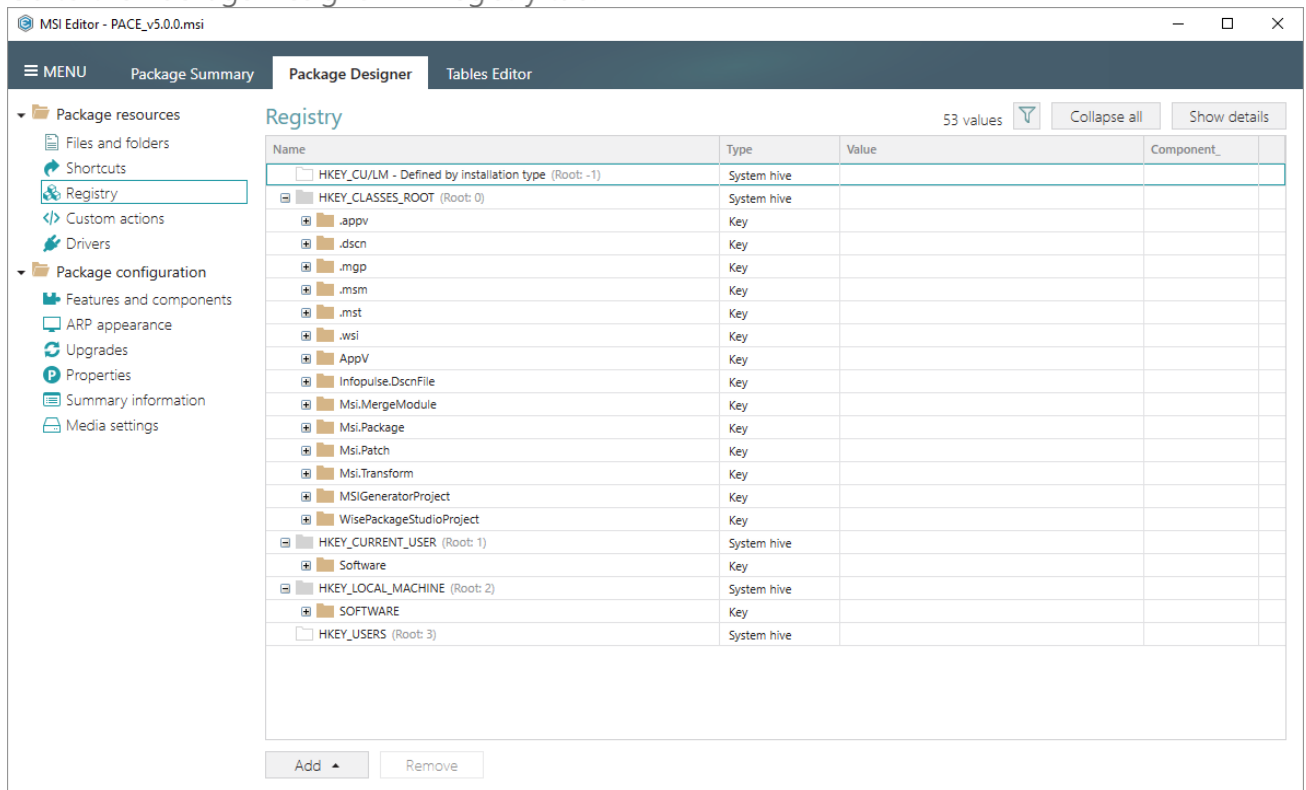


The screenshot shows the MSI Editor - PACE_v5.0.0.msi application. The 'MENU' is open, displaying options such as 'New MSI...', 'New MST...', 'Open...', 'Open recent', 'Apply MST to MSI...', 'Remove MST from MSI', 'Save', 'Save as...', 'Create MSP against original MSI...', 'Generate package report...', 'Deploy to SCCM...', 'Active scripting...', 'Compare packages...', 'Edit', 'Import and export', 'Validation', 'Help', and 'Quit'. The 'Package Summary' tab is active, showing a 'Complexity estimation' donut chart. The chart indicates a 'Complexity level: Medium'. The legend on the right lists categories: Files (dark teal), Regis (blue), Custr (light blue), Servi (orange), ODB (dark grey), and ICE e (red). Below the chart are 'Recalculate' and 'Export results to file' buttons.

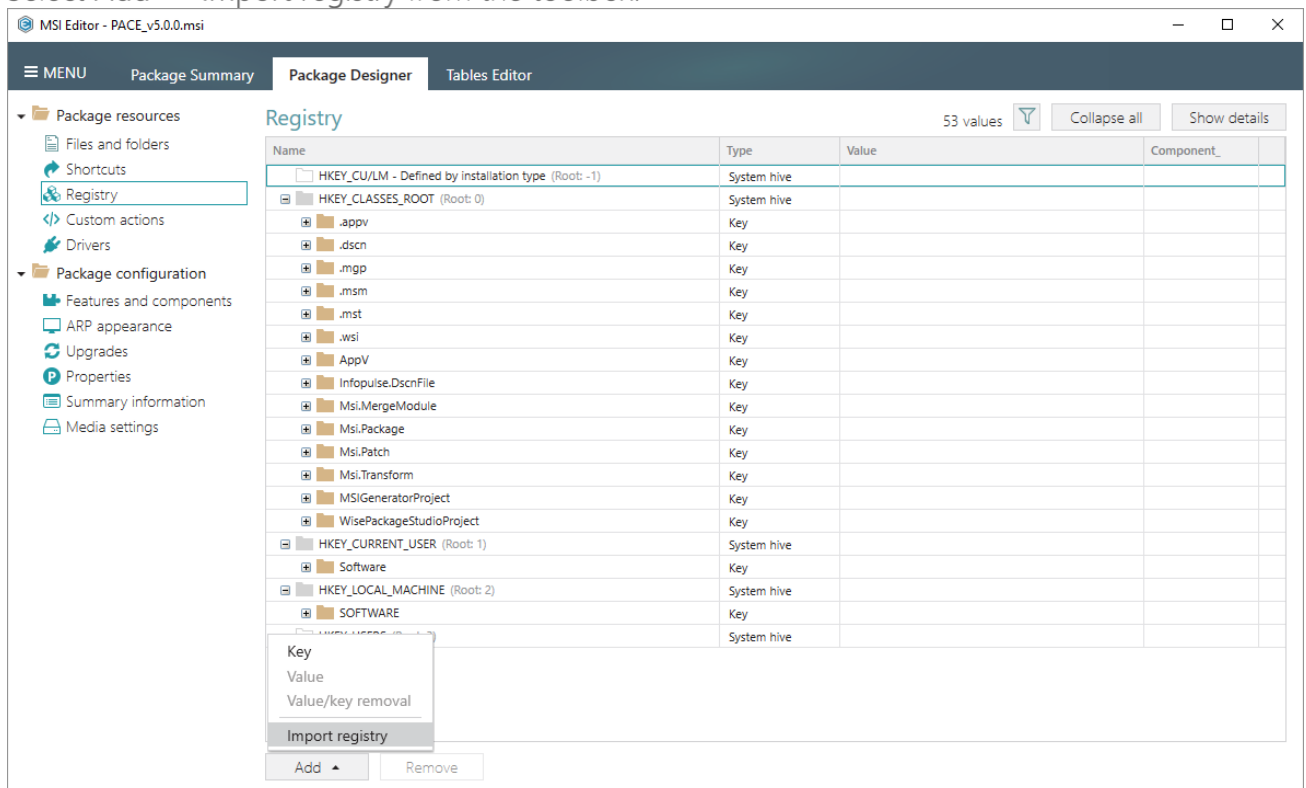
3.7.6.4 Import Registry

Import registry from the REG file.

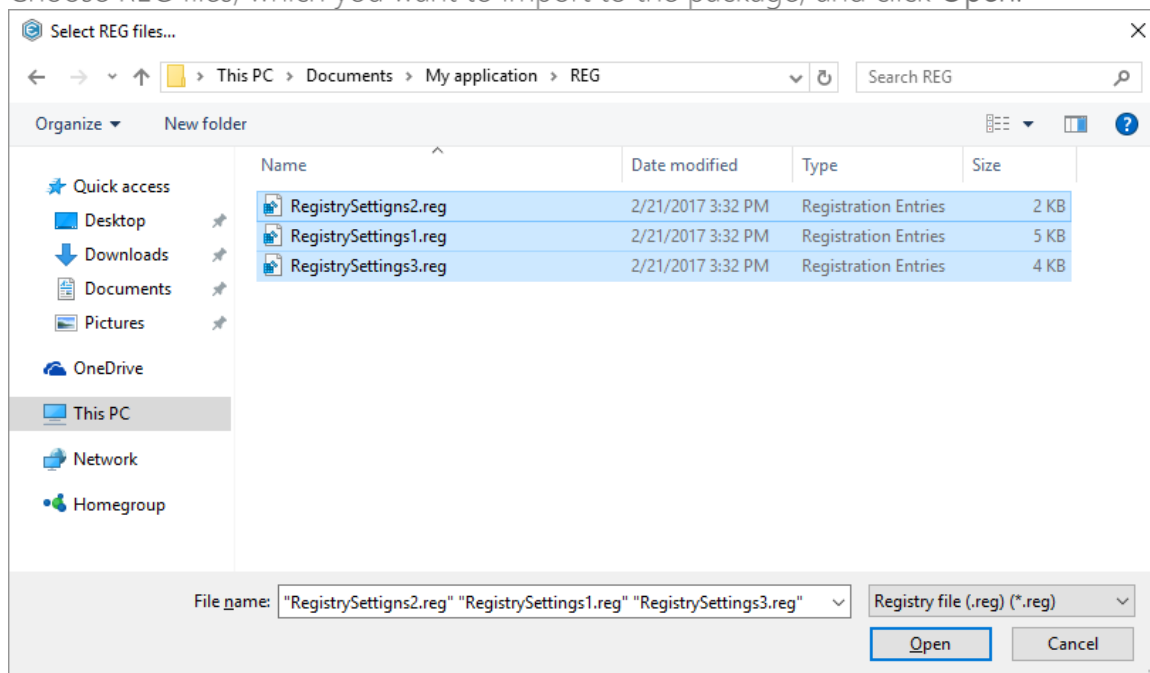
- Go to the Package Designer -> Registry tab.



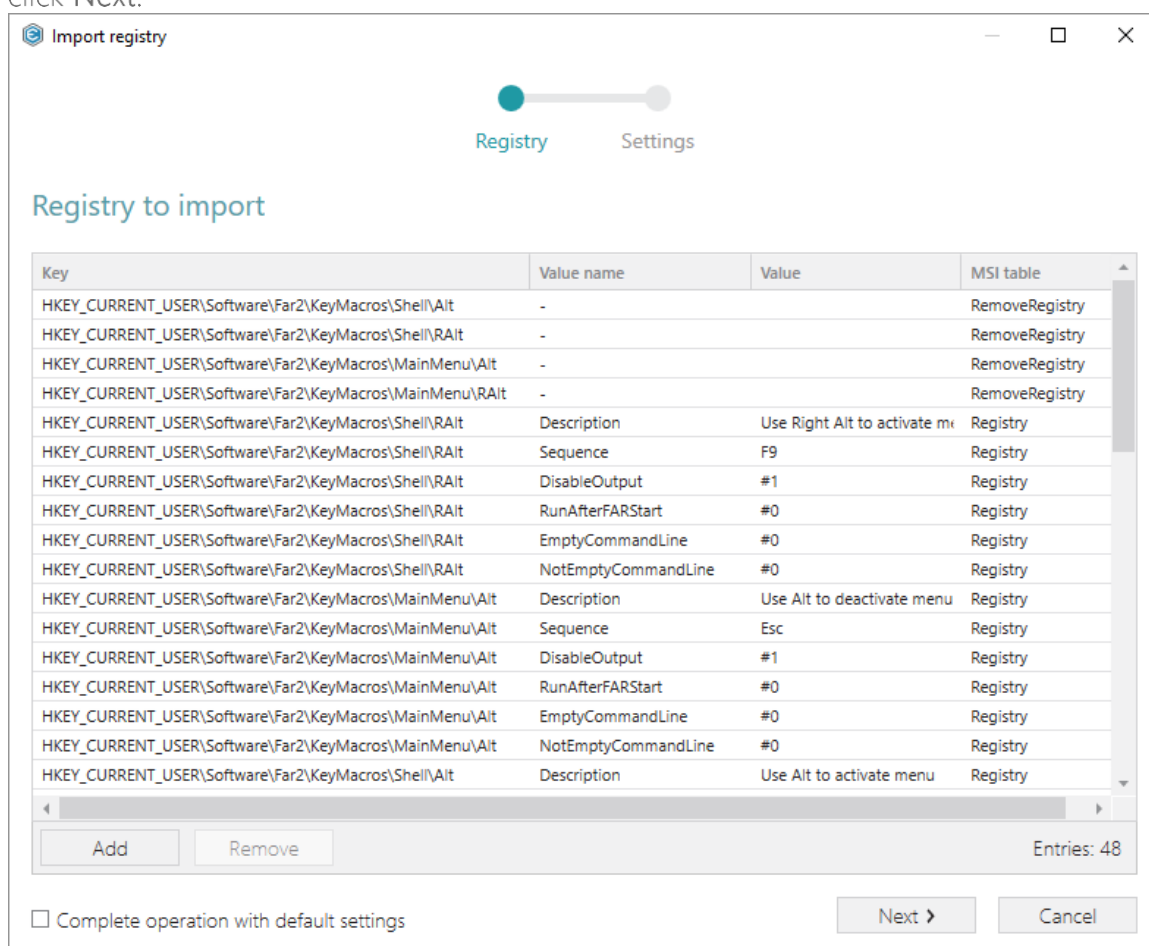
- Select Add -> Import registry from the toolbox.



- Choose REG files, which you want to import to the package, and click Open.



- Review registry entries, parsed from the selected REG files, remove the unnecessary ones, and click Next.



- At the Settings step, you can select an MSI Feature, to which components with the registry entries will be assigned. If the registry entries, which have been read, contain values in square brackets, you can select how these values will be processed – as MSI properties or as ordinary registry values. Below, in the tables, you will find the detailed description of these settings. Click Finish to complete the import.

Import registry

Registry

Settings

Settings

Target feature

<PACE feature>

New feature

☒ Manage features automatically

Values with special symbols

Key	Value name	Value	MSI table
HKEY_LOCAL_MACHINE\SOFTWARE\Mozilla\MaintenanceService	Test	[ProductCode]	Registry

☒ Escape square bracket characters to deliver original values (e.g. [String[]])

☐ Process values in square bracket as MSI properties (e.g. [String])

< Back

Finish

Cancel

Feature settings

Manage features automatically

The specific PACE features will be created (or used if they exist) for the components, containing the imported registry. Feature structure is based on the packaging best practices and depends on the registry key location.

<a feature, selected from the list>

Components with registry will be assigned to a feature, selected from the list.

Values with special symbols

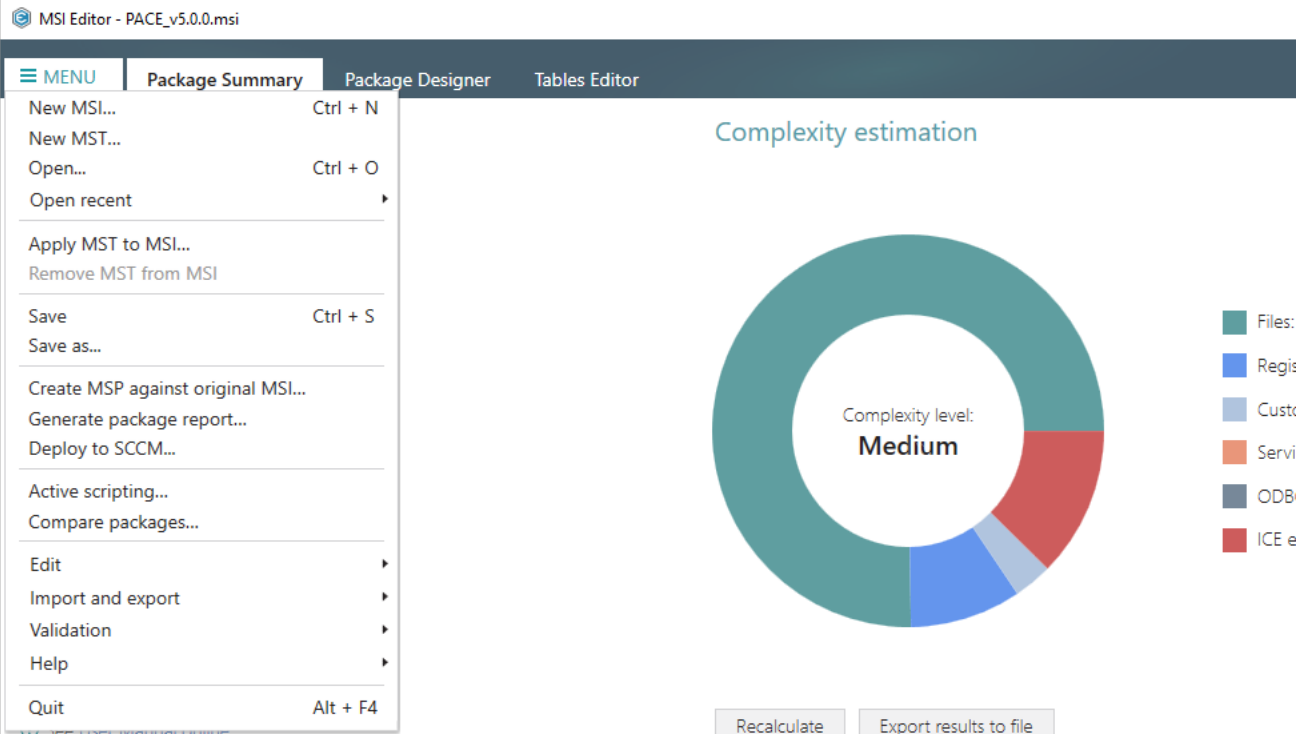
Escape square bracket characters to deliver original values

Values in square brackets, displayed in the list, will be saved to MSI as ordinary strings using the general rules for escaping the special characters. This approach guarantees the delivery of the imported registry entries to the target system with their original values.

Process values in square brackets as MSI properties

Values in square brackets, displayed in the list, will be saved to MSI as MSI properties. Thus, each MSI property will be replaced with its value during the MSI installation. If a property does not exist in MSI during the installation, it will be replaced with the blank value.

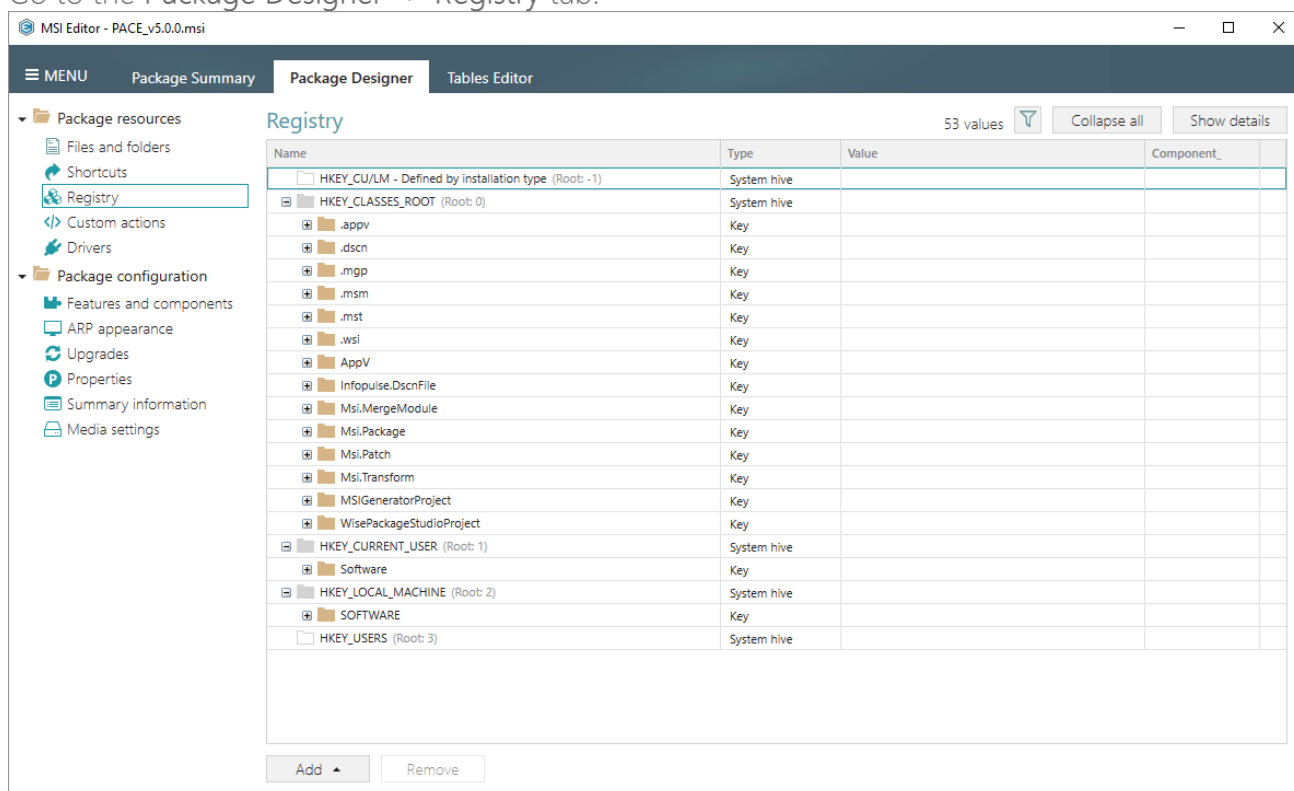
- For saving your package, select Save from the MENU.



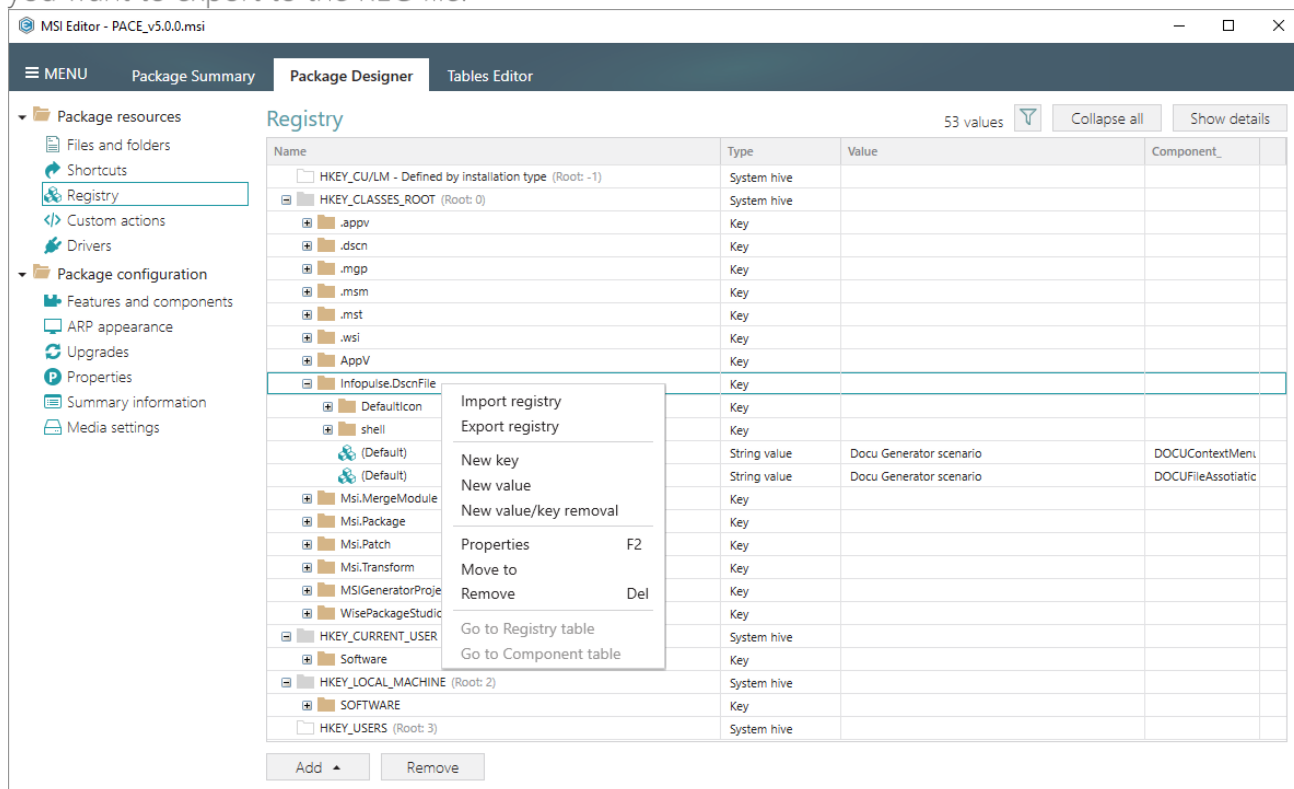
3.7.6.5 Export Registry

Export the selected registry to the REG file.

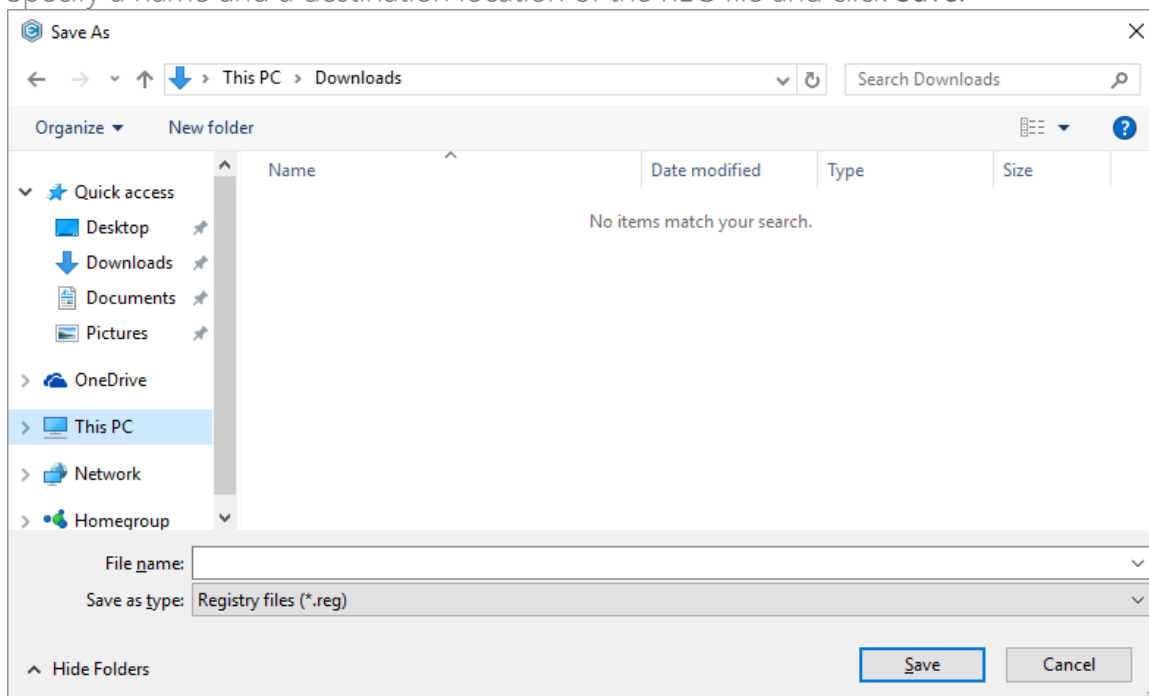
- Go to the Package Designer -> Registry tab.



- Select Export registry from the context menu of a registry item (root hive, key, or value), which you want to export to the REG file.



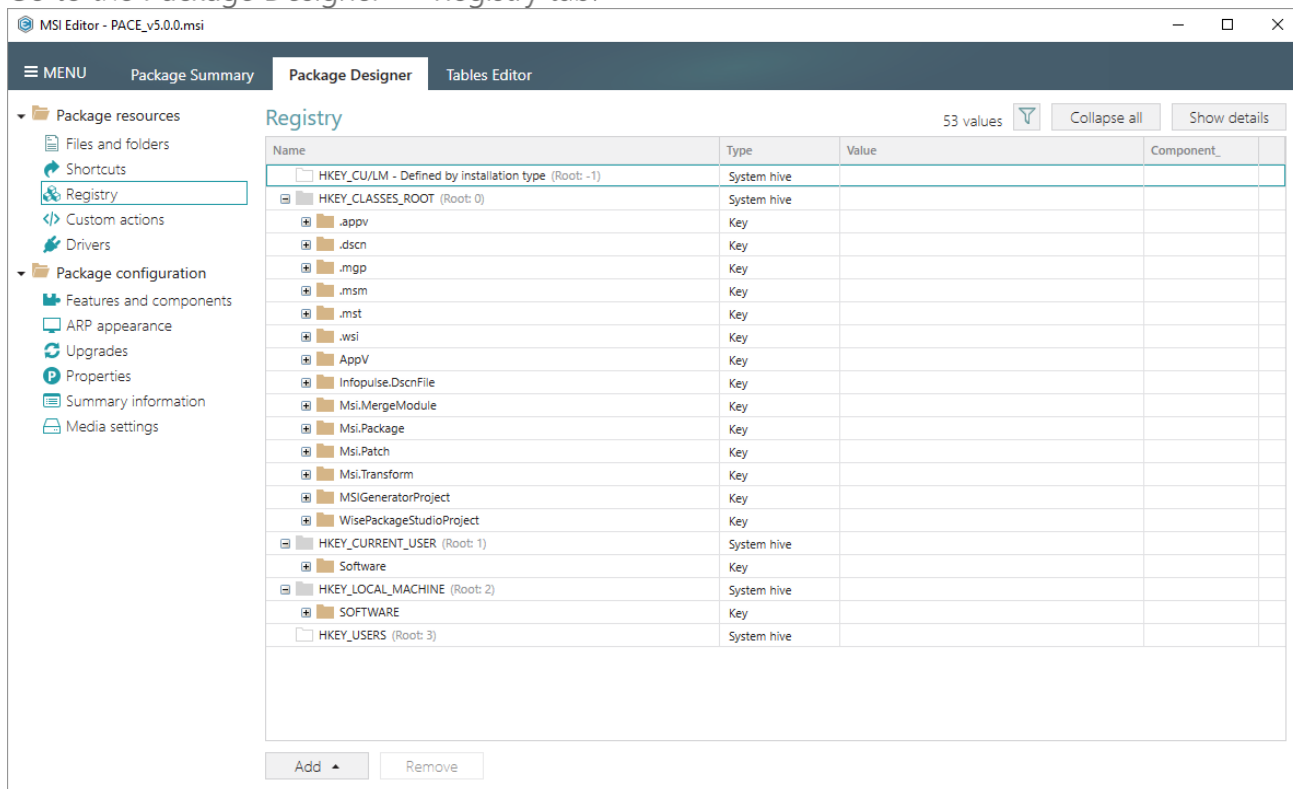
- Specify a name and a destination location of the REG file and click Save.



3.7.6.6 Set Permissions

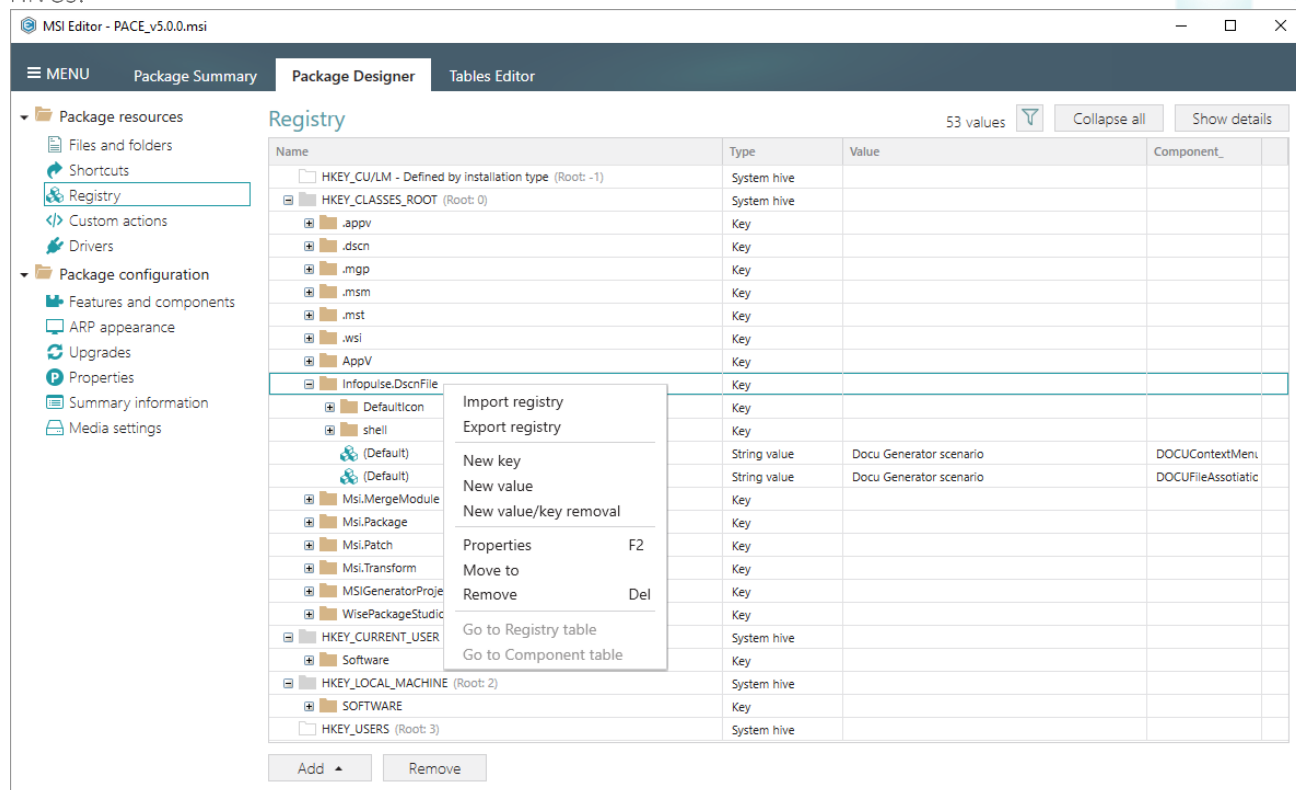
Set custom permissions for the registry key.

- Go to the Package Designer -> Registry tab.

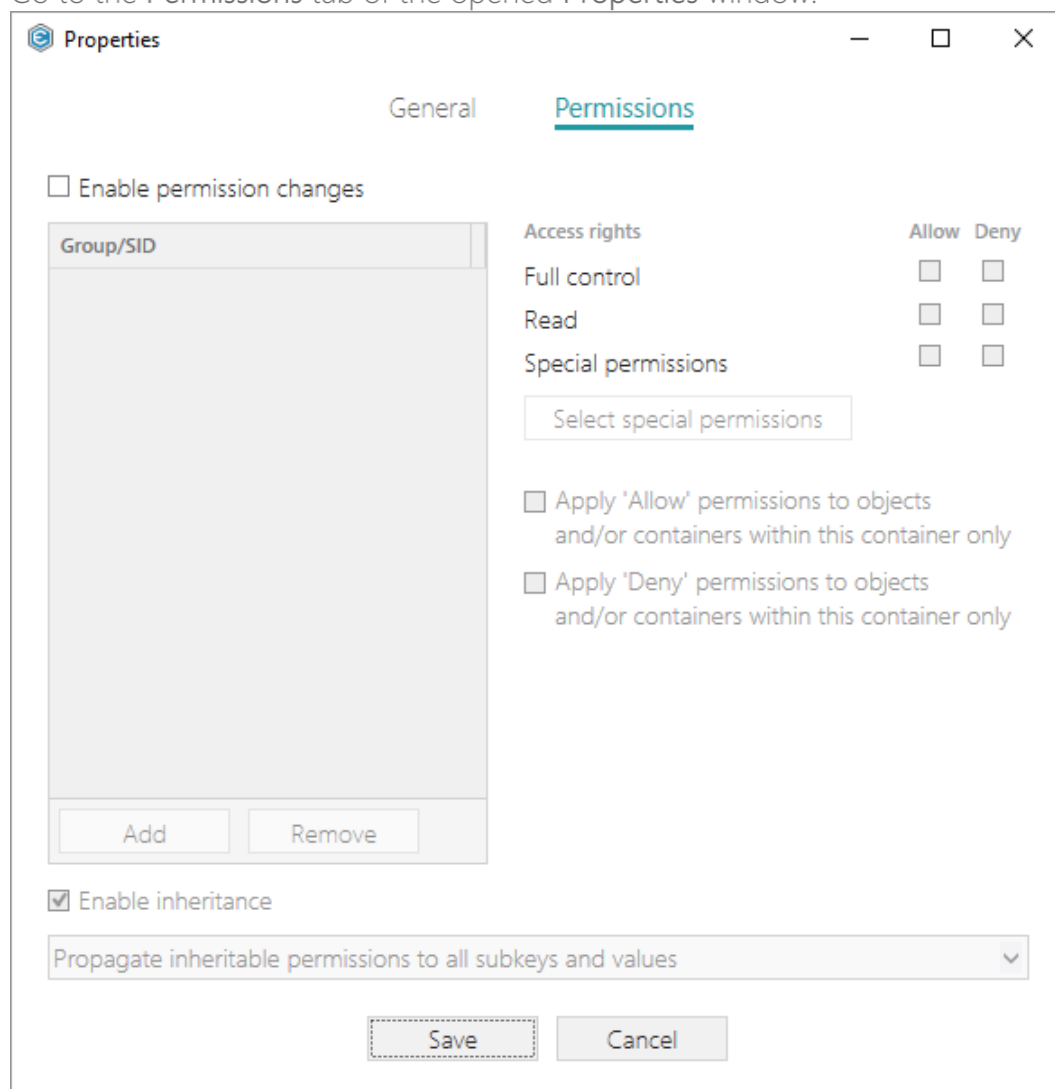


- Select Properties from the context menu of a registry key, for which you want to set permissions. Note that permissions could not be changed for the registry values and root

hives.



- Go to the Permissions tab of the opened Properties window.



- Tick the Enable permission changes checkbox and click Add.

Properties

General Permissions

☒ Enable permission changes

Group/SID

Access rights

	Allow	Deny
Full control	<input type="checkbox"/>	<input type="checkbox"/>
Read	<input type="checkbox"/>	<input type="checkbox"/>
Special permissions	<input type="checkbox"/>	<input type="checkbox"/>

Select special permissions

☐ Apply 'Allow' permissions to objects and/or containers within this container only

☐ Apply 'Deny' permissions to objects and/or containers within this container only

Add Remove

☒ Enable inheritance

Propagate inheritable permissions to all subkeys and values

Save Cancel

- Select a group from the list or enter SID manually, for which you want to set permissions, and click Add. Note that you can add as many groups and SID as you need. Each group and SID could have individual access rights.

Add Group or SID

☒ Group

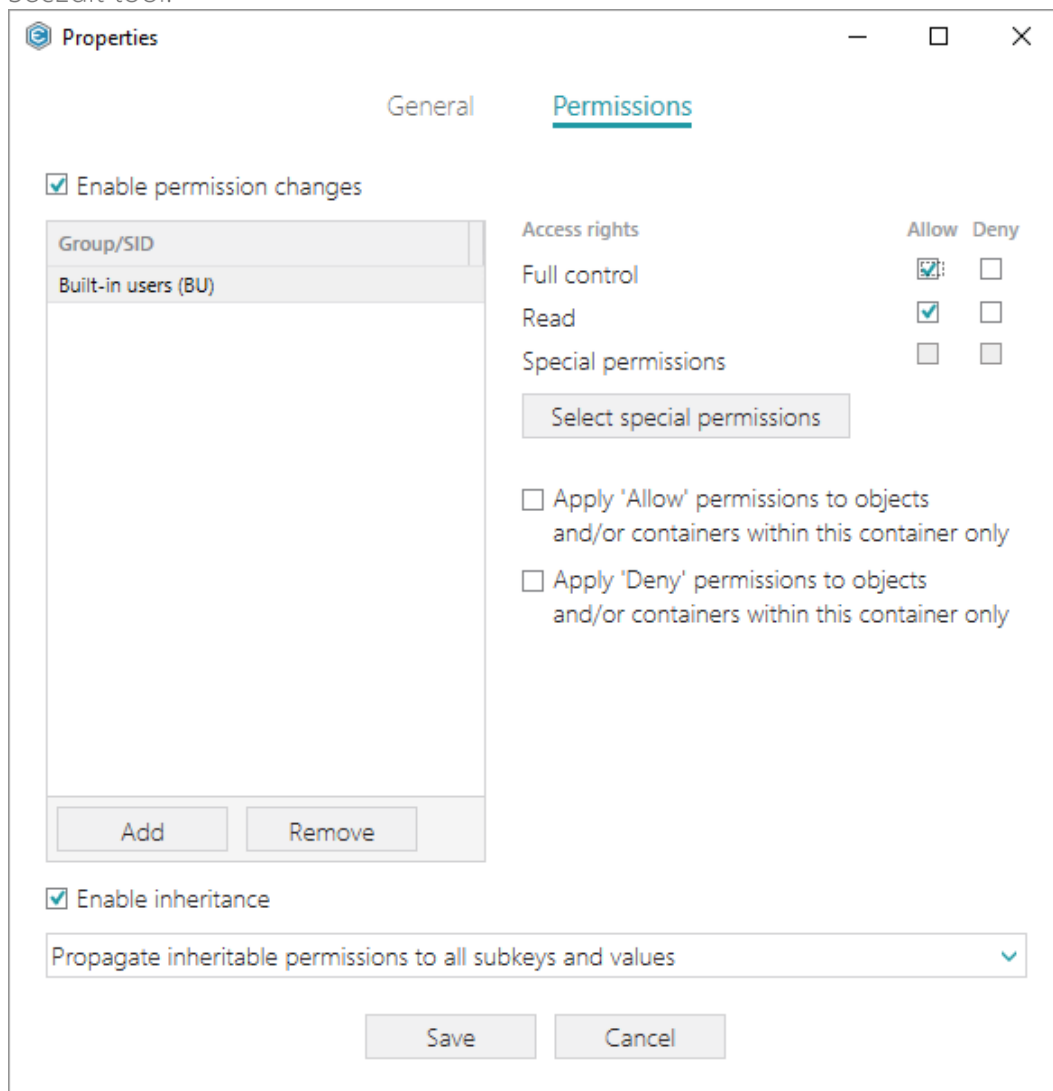
Built-in users (BU)

☐ SID

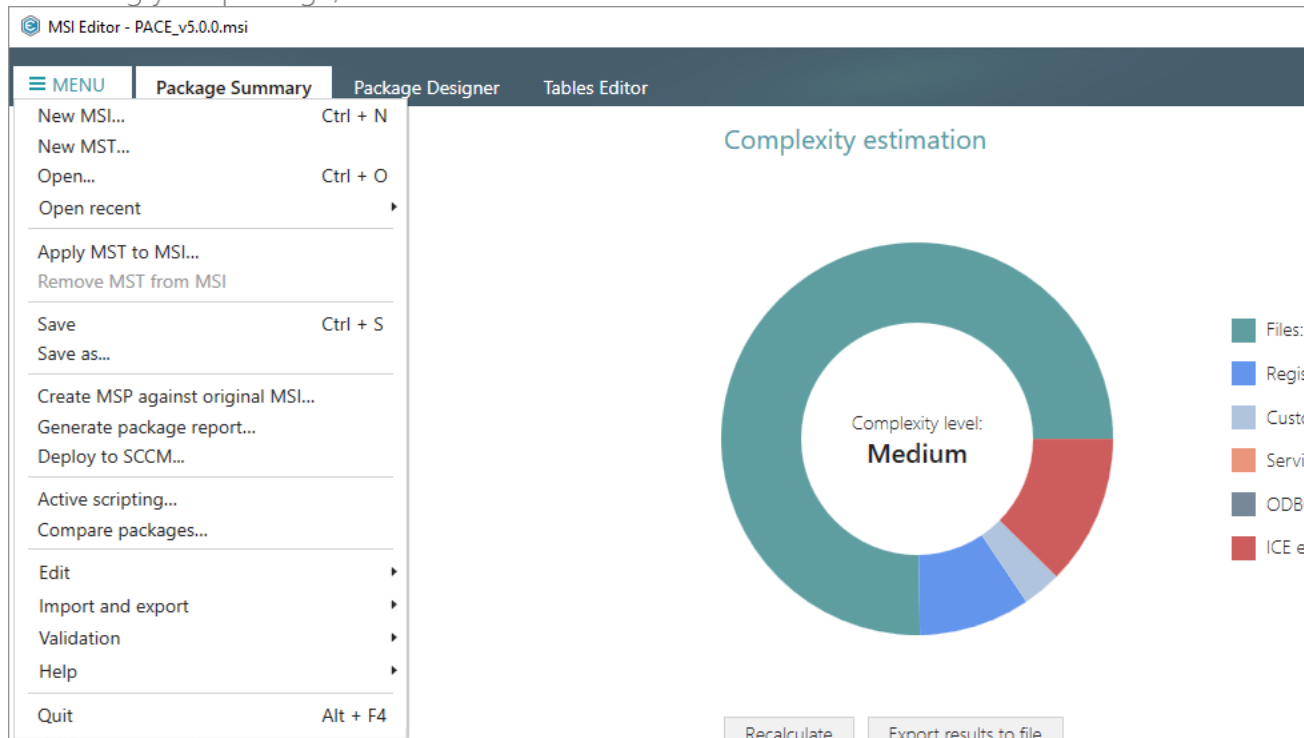
Add Cancel

- Tick the necessary access rights for the selected group or SID, change (if needed) special permissions, inheritance options and behavior of applying the permissions. Click **Save** to save the changed permission settings to MSI. Note that permissions will be propagated using the

SecEdit tool.



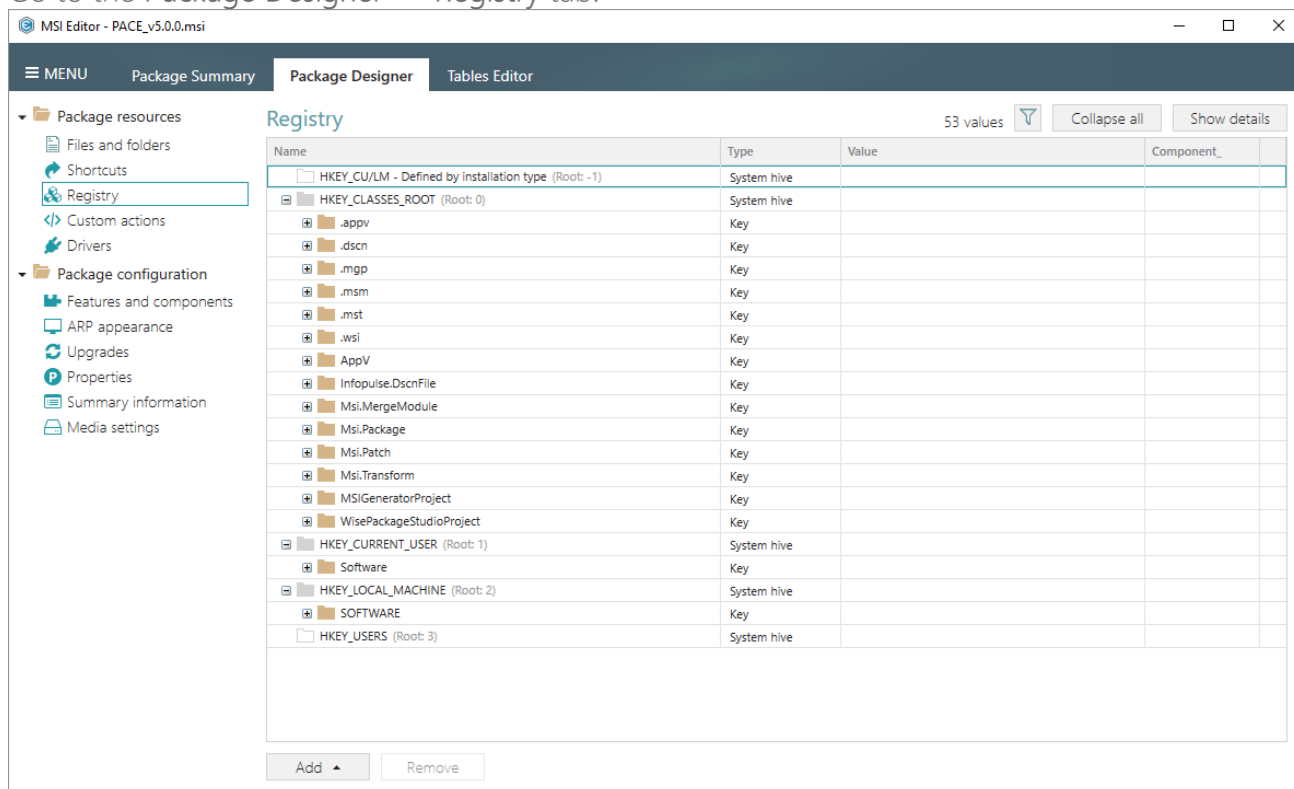
- For saving your package, select Save from the MENU.



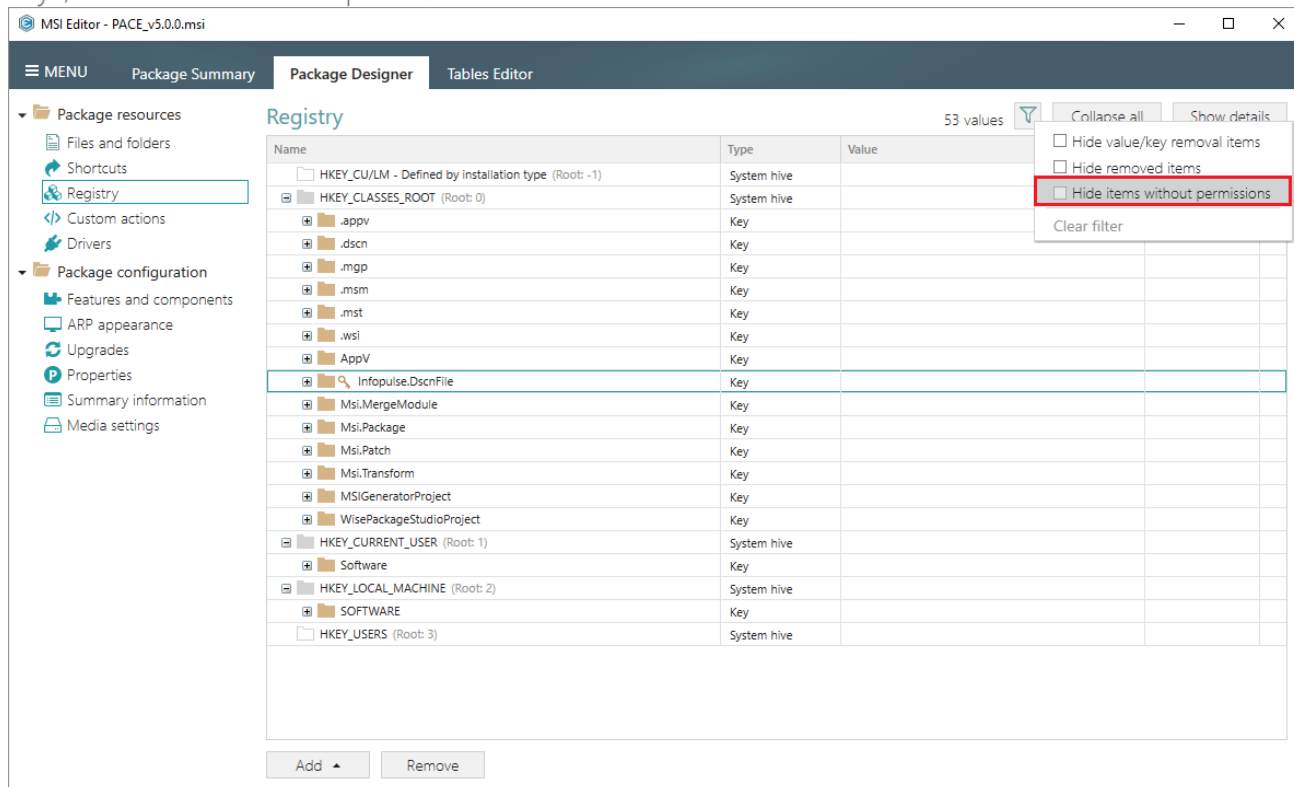
3.7.6.7 Remove Permissions

Locate registry key with custom permissions and remove the unnecessary permissions.

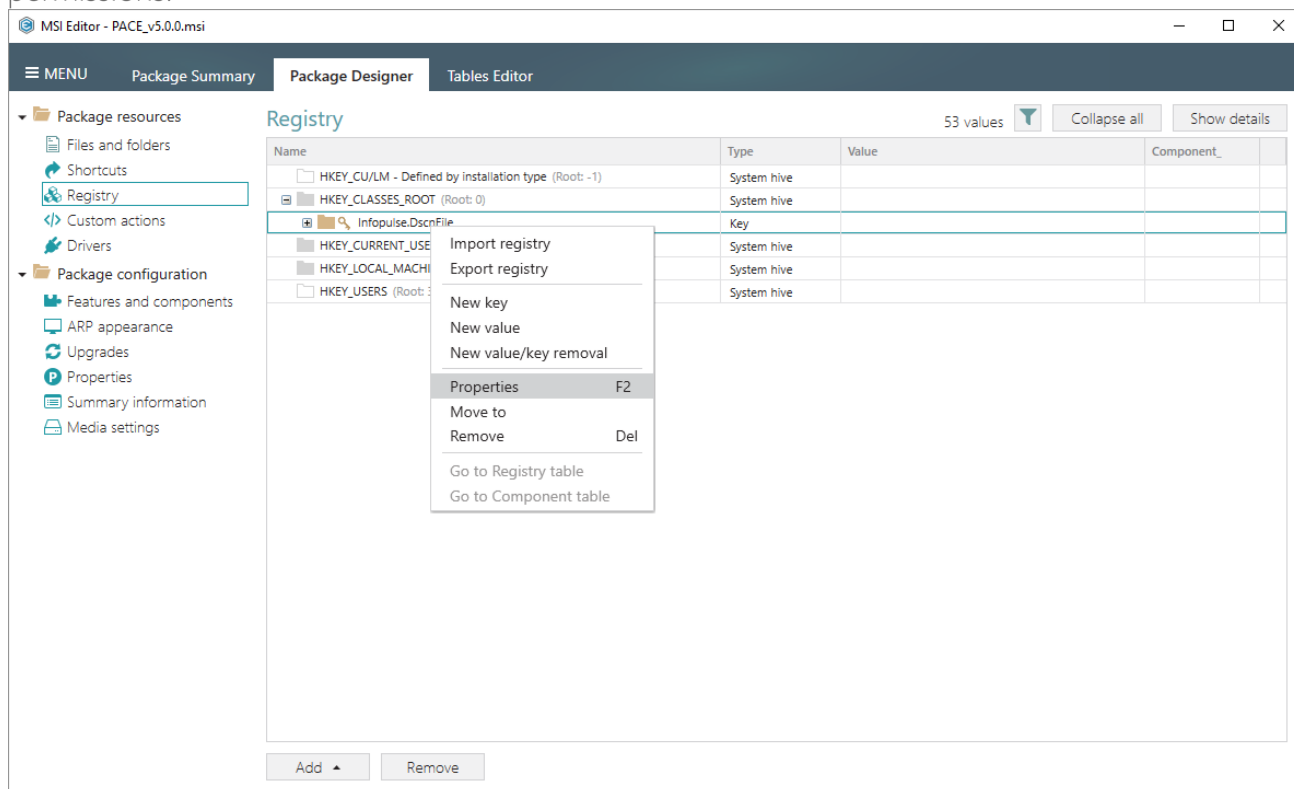
- Go to the Package Designer -> Registry tab.



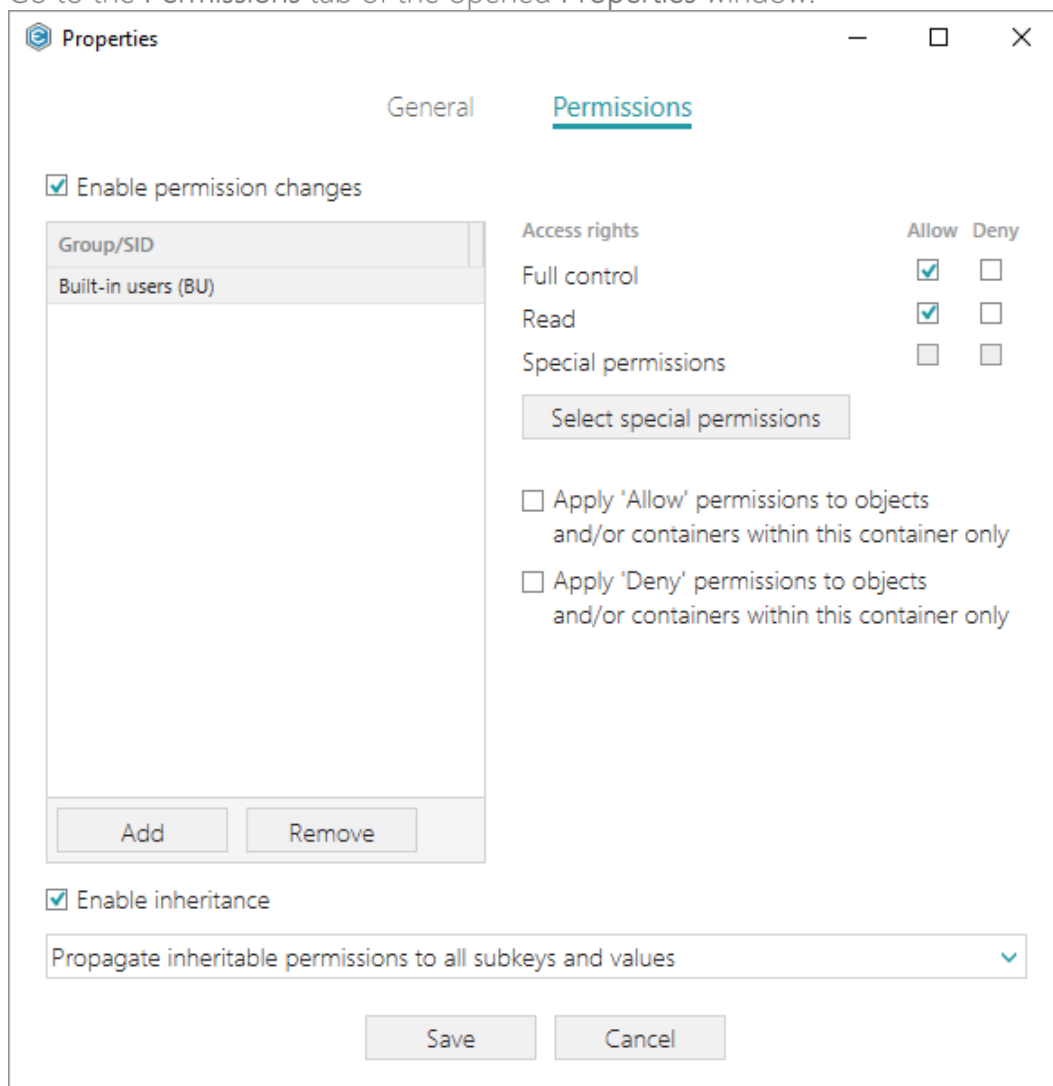
- (Optional step) Apply the Hide items without permissions filter to display only those registry keys, which have custom permissions.



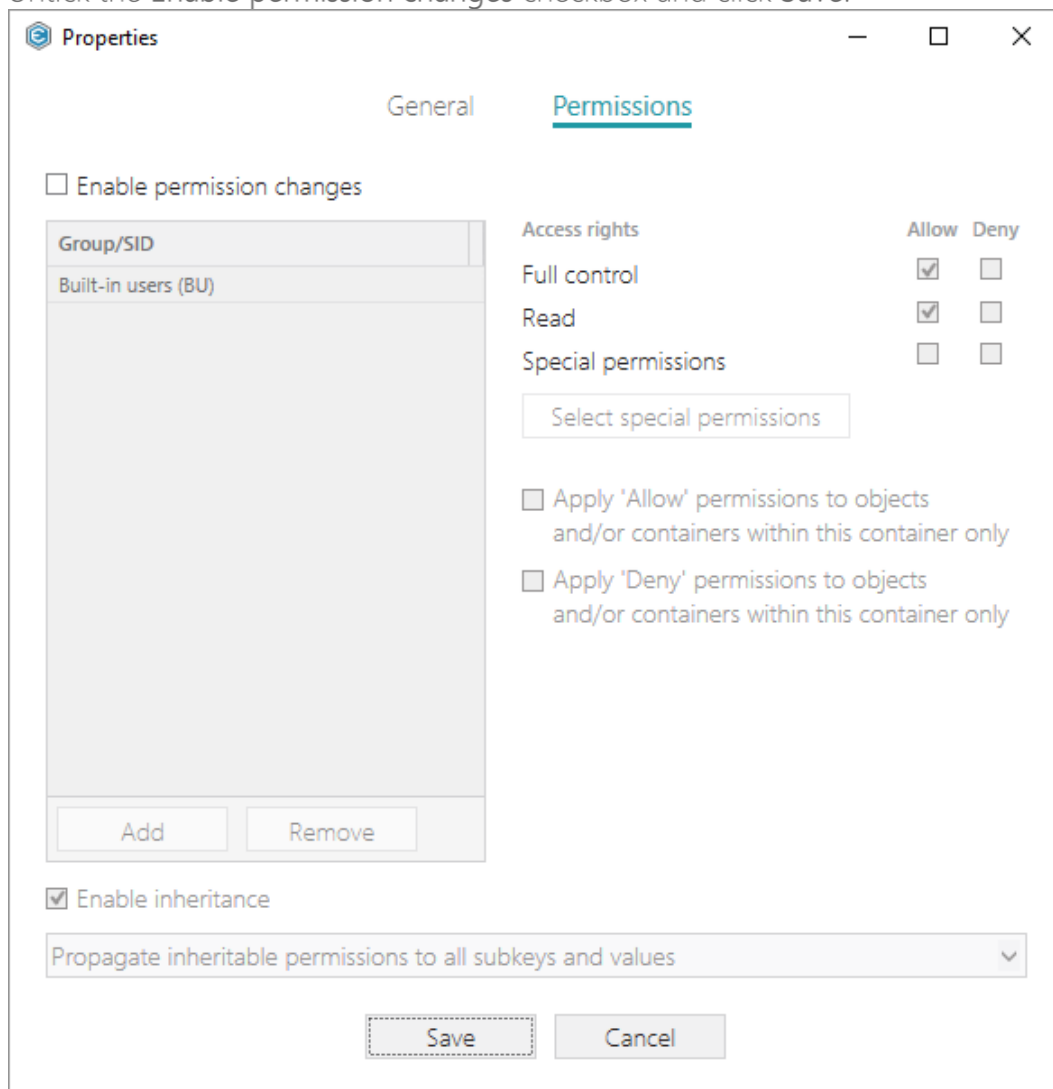
- Select **Properties** from the context menu of a registry key, for which you want to remove permissions.



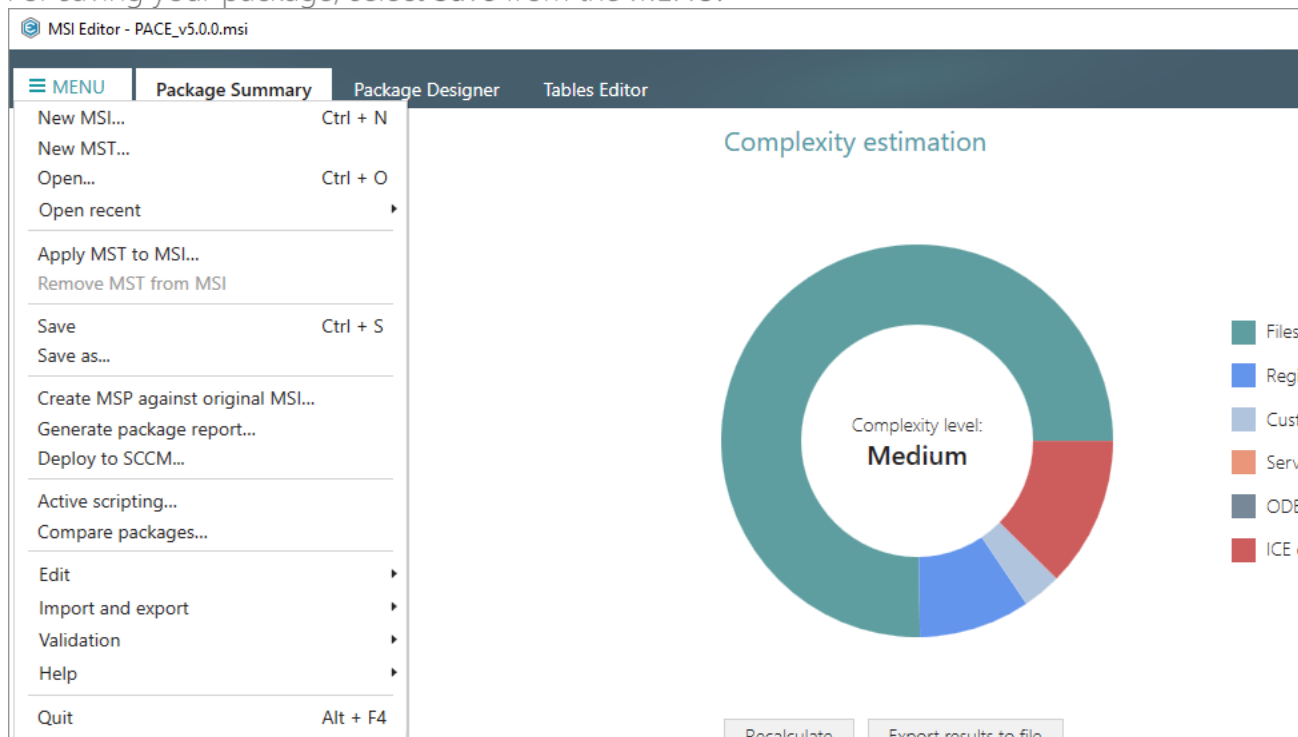
- Go to the Permissions tab of the opened Properties window.



- Untick the Enable permission changes checkbox and click Save.



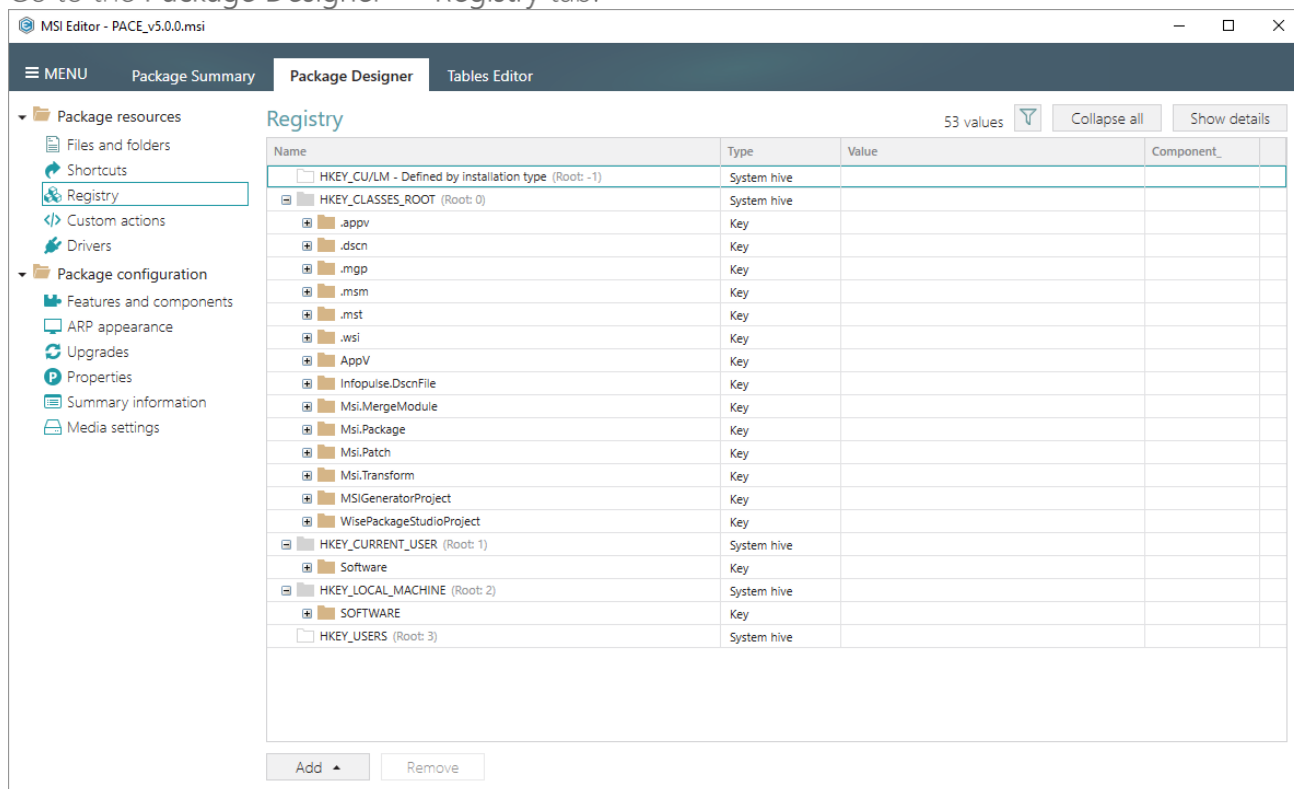
- For saving your package, select Save from the MENU.



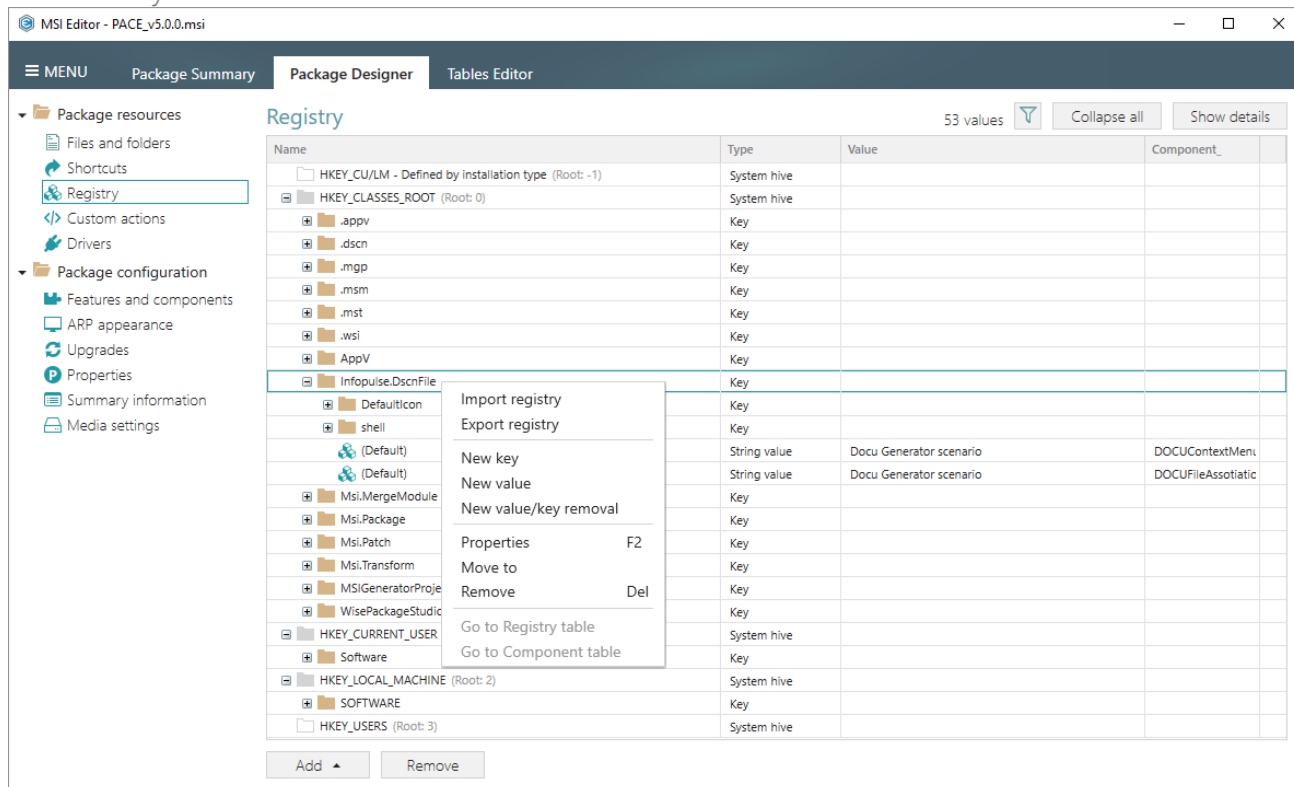
3.7.6.8 Move Value, Key

Move a registry value or a key from one parent key to another one.

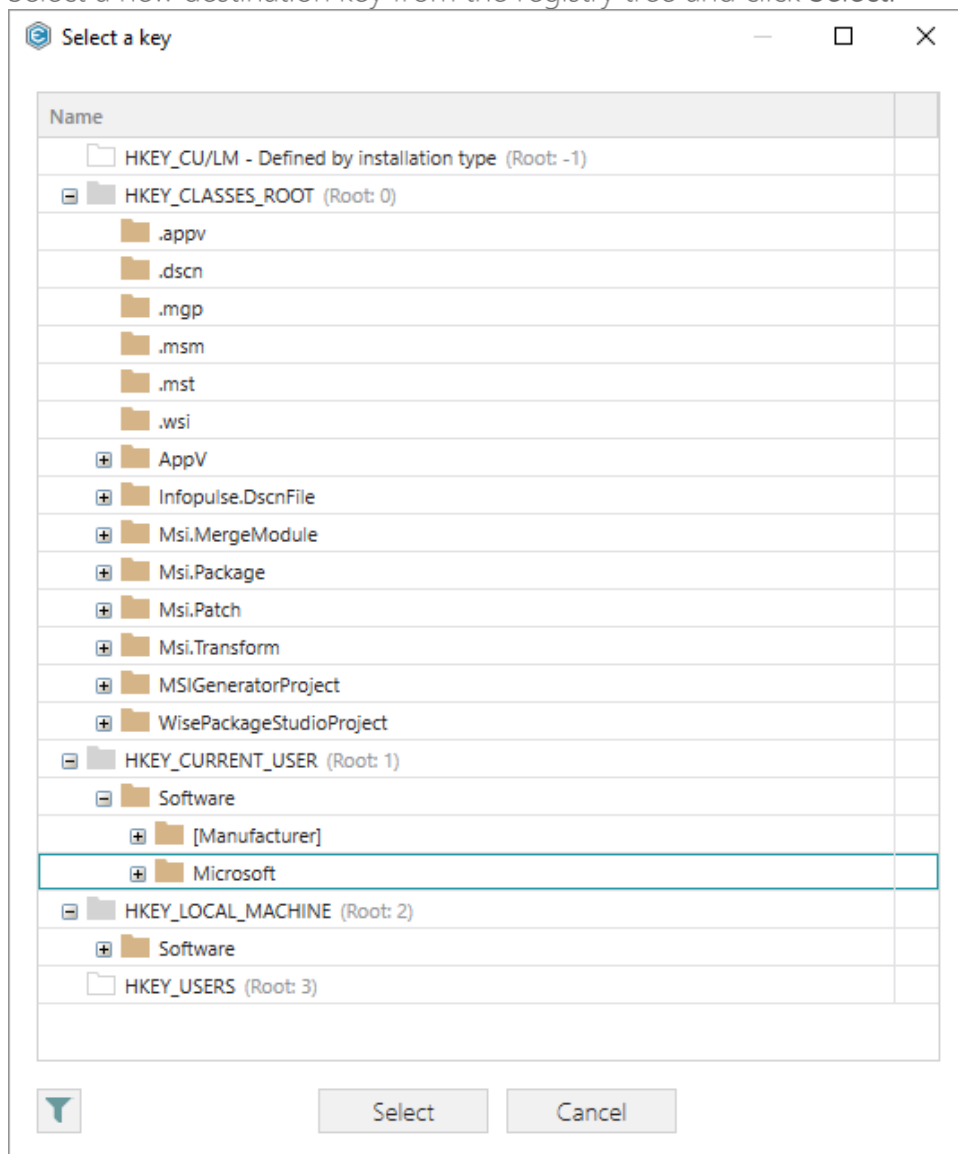
- Go to the Package Designer -> Registry tab.



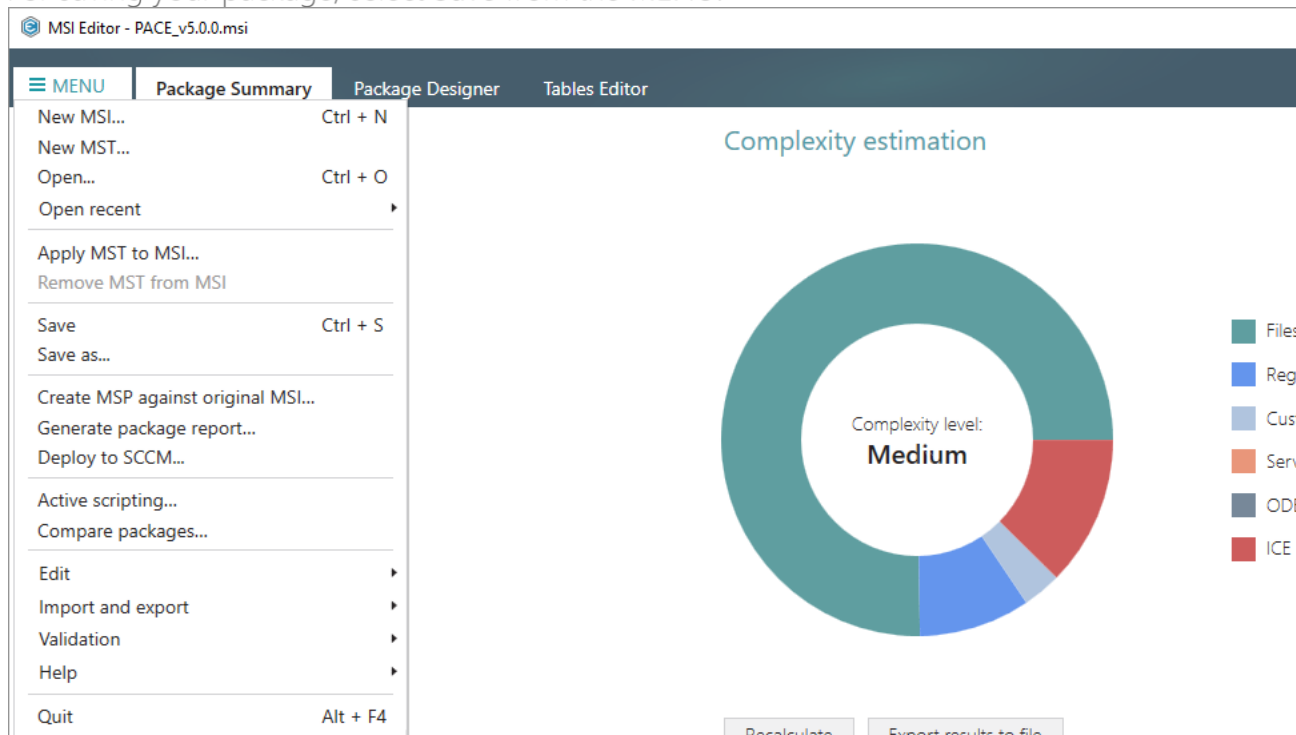
- Select Move to from the context menu of a registry key or a value, which you want to move to another key.



- Select a new destination key from the registry tree and click Select.



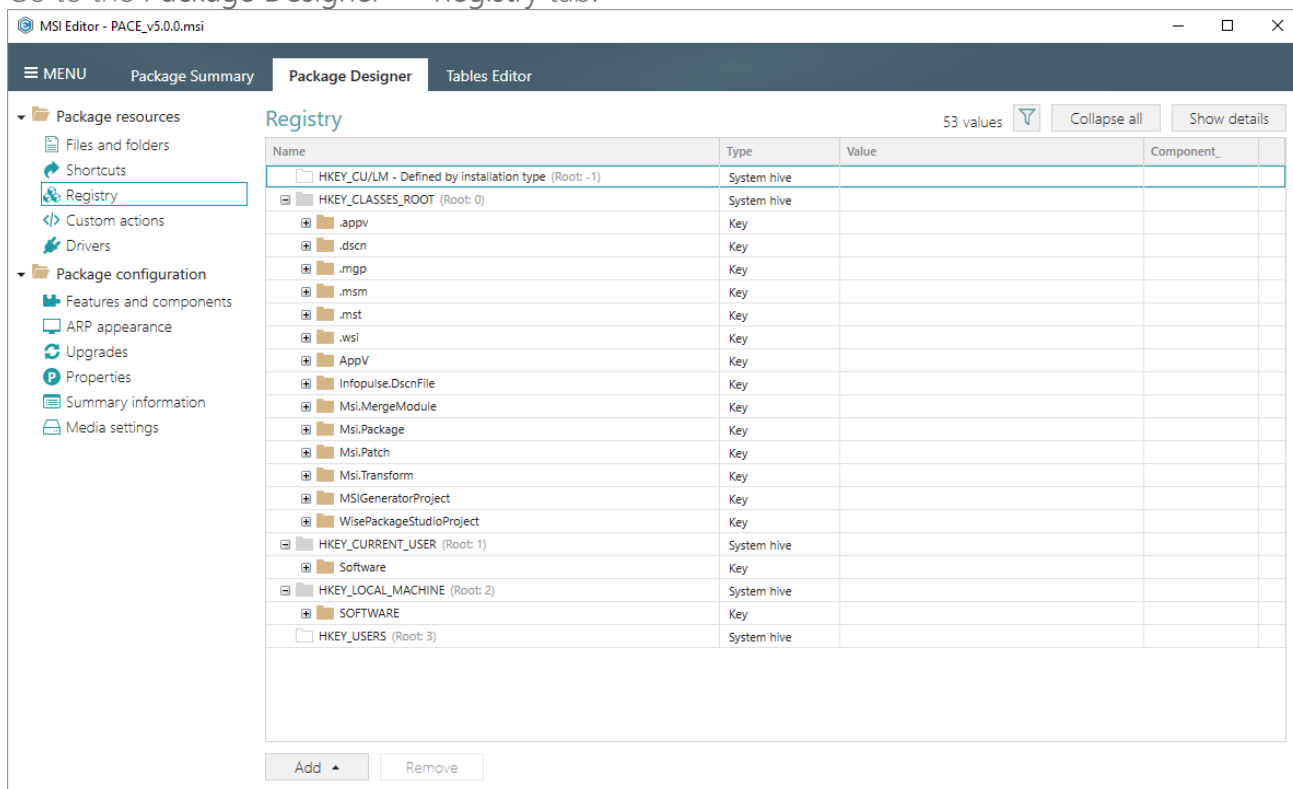
- For saving your package, select Save from the MENU.



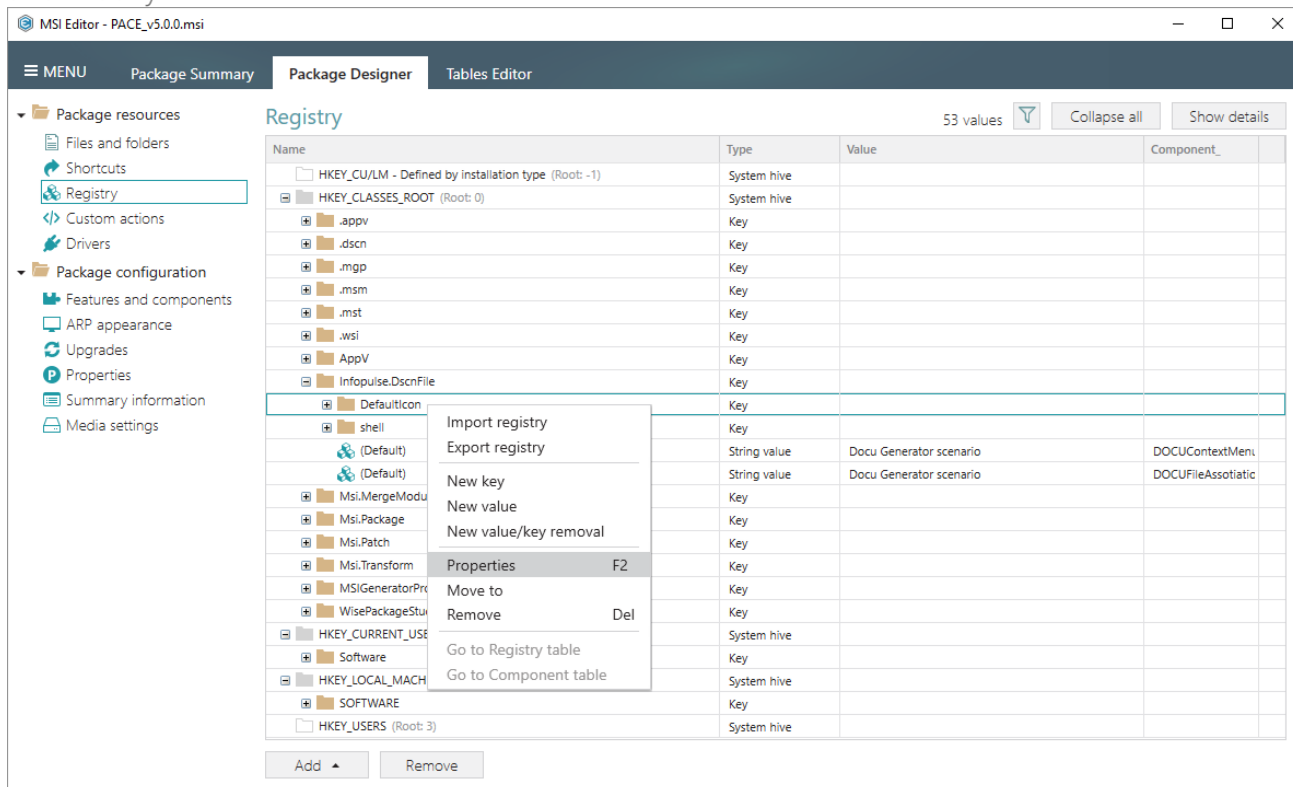
3.7.6.9 Edit Registry Key

Modify details and options of the selected registry key.

- Go to the Package Designer -> Registry tab.



- Select **Properties** from the context menu of a registry key, details of which you want to review and modify.



- Using the **Properties** window make the necessary changes to the key **Name**, its **Parent key** and **Root hive**. You can modify the **Parent key** directly in the text field or use **Browse** to choose a new key from the registry tree. Note that changing the **Parent key** and/or the **Root hive** will result in moving the selected key to a new location.

Select the necessary key **Options** (e.g. 'Create key on install, even if empty') to secure the key creation and/or removal. The selected key **Options** will be represented as special registry values, created under this key. Afterwards, click **Save**.

The screenshot shows the 'Properties' dialog box for the MSI table 'Registry'. The 'General' tab is selected. The 'Name' field contains 'DefaultIcon'. The 'Parent key' field contains 'Infopulse.DscnFile' with a 'Browse...' button next to it. The 'Root' dropdown is set to 'HKEY_CLASSES_ROOT (0)'. Under the 'Options' section, there are three checkboxes, all of which are unchecked:

- ☐ Create key on install, even if empty
- ☐ Remove key with all of its values and subkeys before install
- ☐ Remove key with all of its values and subkeys on uninstall

Each checkbox has a 'Component_' dropdown menu below it. At the bottom of the dialog are 'Save' and 'Cancel' buttons.

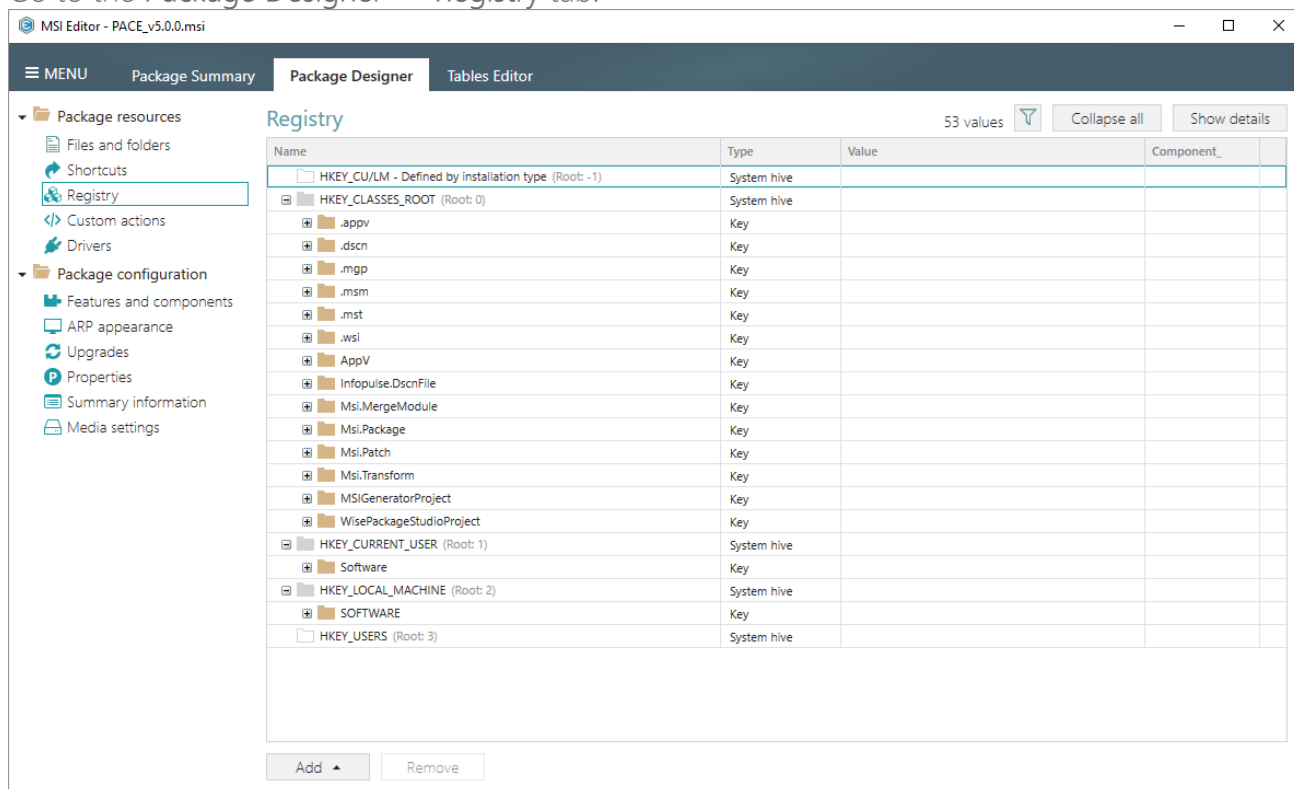
- For saving your package, select **Save** from the **MENU**.

The screenshot shows the 'MSI Editor - PACE_v5.0.0.msi' application. The 'MENU' is open, showing options like 'New MSI...', 'Open...', 'Save', 'Create MSP against original MSI...', 'Active scripting...', 'Edit', 'Import and export', 'Validation', 'Help', and 'Quit'. The 'Package Summary' tab is active, displaying a 'Complexity estimation' donut chart. The chart shows a 'Complexity level: Medium'. The legend on the right lists categories: Files (dark teal), Regis (blue), Custr (light blue), Servi (orange), ODB (dark grey), and ICE e (red). At the bottom of the chart area are 'Recalculate' and 'Export results to file' buttons.

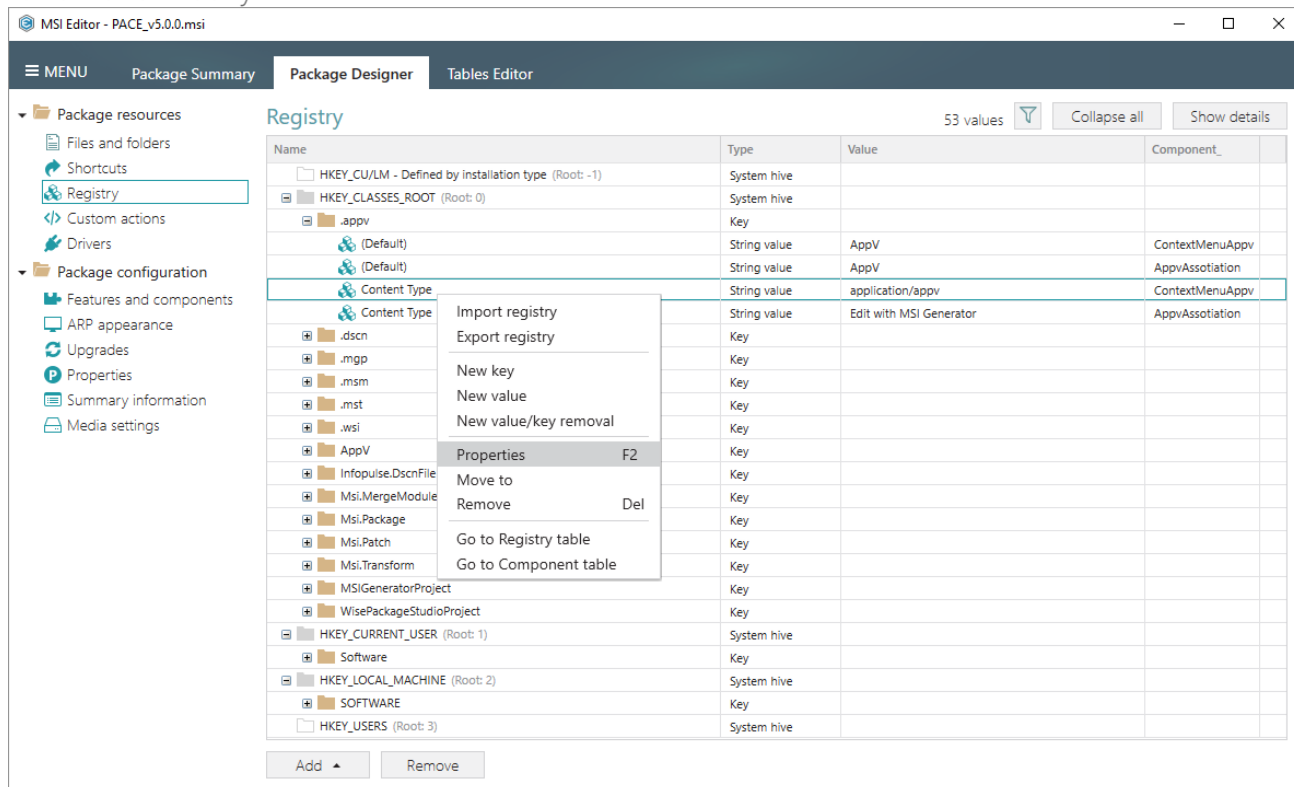
3.7.6.10 Edit Registry Value

Modify details of the selected registry value.

- Go to the Package Designer -> Registry tab.



- Select **Properties** from the context menu of a registry value, details of which you want to review and modify.



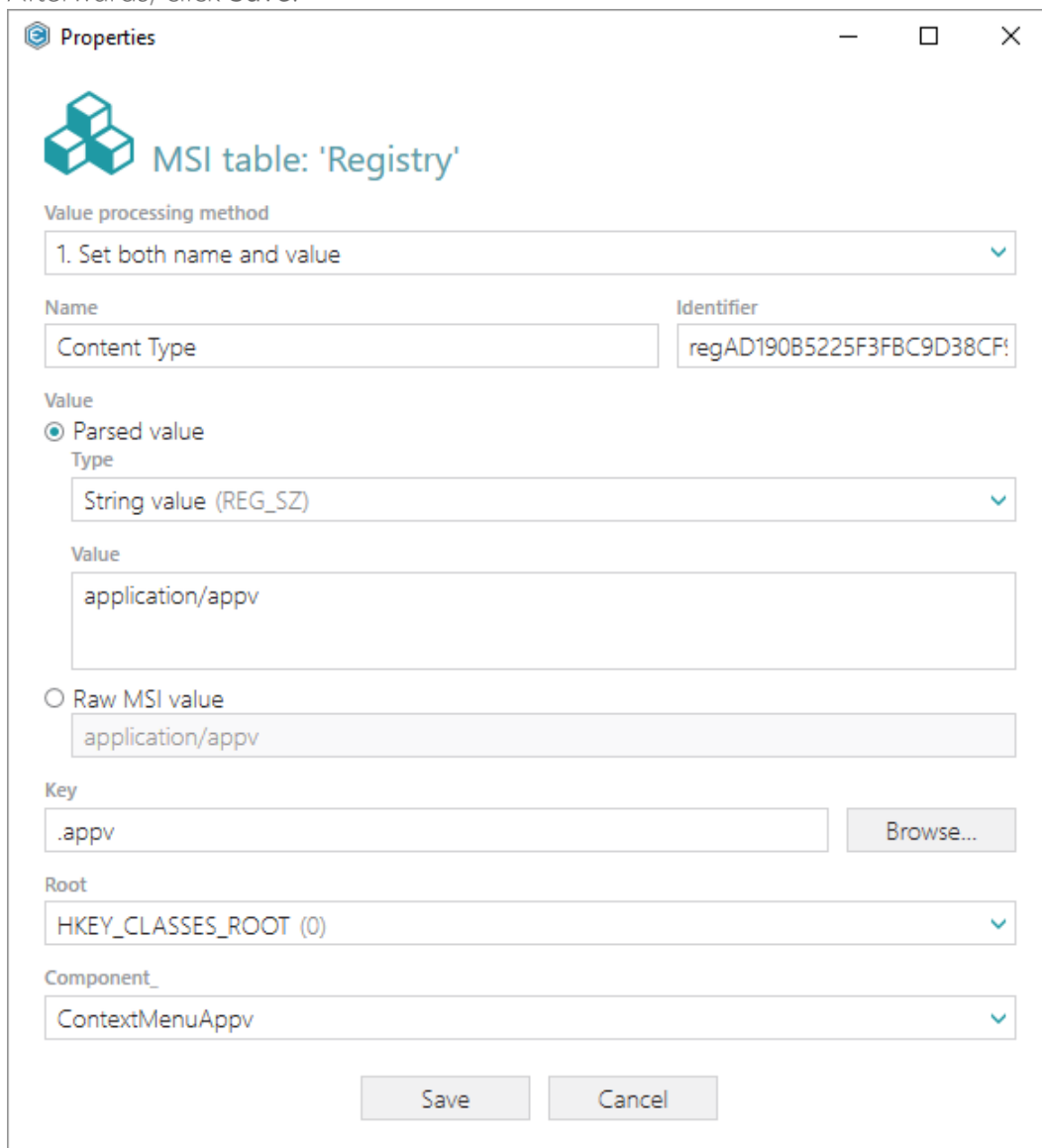
- Using the **Properties** window make the necessary changes to the value **Name**, **Value** itself, and **Component** that controls the installation of this registry value.

The **Parsed value** option serves easier editing of a registry value of the selected value type. The **Raw MSI value** option displays and gives ability to manage what exactly will be saved to the opened MSI database.

Note that changing a **Key** and a **Root** hive will result in moving this registry value to a new location. You can modify the **Key** directly in the text field or use **Browse** to choose a new key from the registry tree.

The **Value processing method** options defines whether this value will be an ordinary registry value with the specified **Name** and **Value** or will secure a key creation and/or removal. Below, in the tables, you will find the detailed description of these options.

Afterwards, click **Save**.



Properties

MSI table: 'Registry'

Value processing method

1. Set both name and value

Name

Content Type

Identifier

regAD190B5225F3FBC9D38CF!

Value

☒ **Parsed value**

Type

String value (REG_SZ)

Value

application/appv

☐ **Raw MSI value**

application/appv

Key

.appv

Browse...

Root

HKEY_CLASSES_ROOT (0)

Component

ContextMenuAppv

Save **Cancel**

Value processing method

1. Set both name and value

On install, the package creates an ordinary registry value with the specified name and value itself in the system registry at the selected root and key.

On uninstall, the package removes this registry value from the system registry. The containing registry key will be automatically removed only if it is empty.

2. Set <Default> key value

On install, the package creates the Default key value with the specified value in the system registry at the selected root and key. In the system registry, this value is represented as "(Default)":

Name	Type	Data
 (Default)	REG_SZ	Test

On uninstall, the package cleans-up the Default key registry value in the system registry. The containing registry key will be automatically removed only if it is empty.

3. Create the key on install, even if empty

On install, the package creates the specified key in the system registry at the selected root, even if this key is empty. By default, empty keys are not created.

On uninstall, no additional actions take place.

4. Remove the key with all of its values and subkeys on uninstall

On install, no additional actions take place.

On uninstall, the package removes this key completely along with all of its values and subkeys.

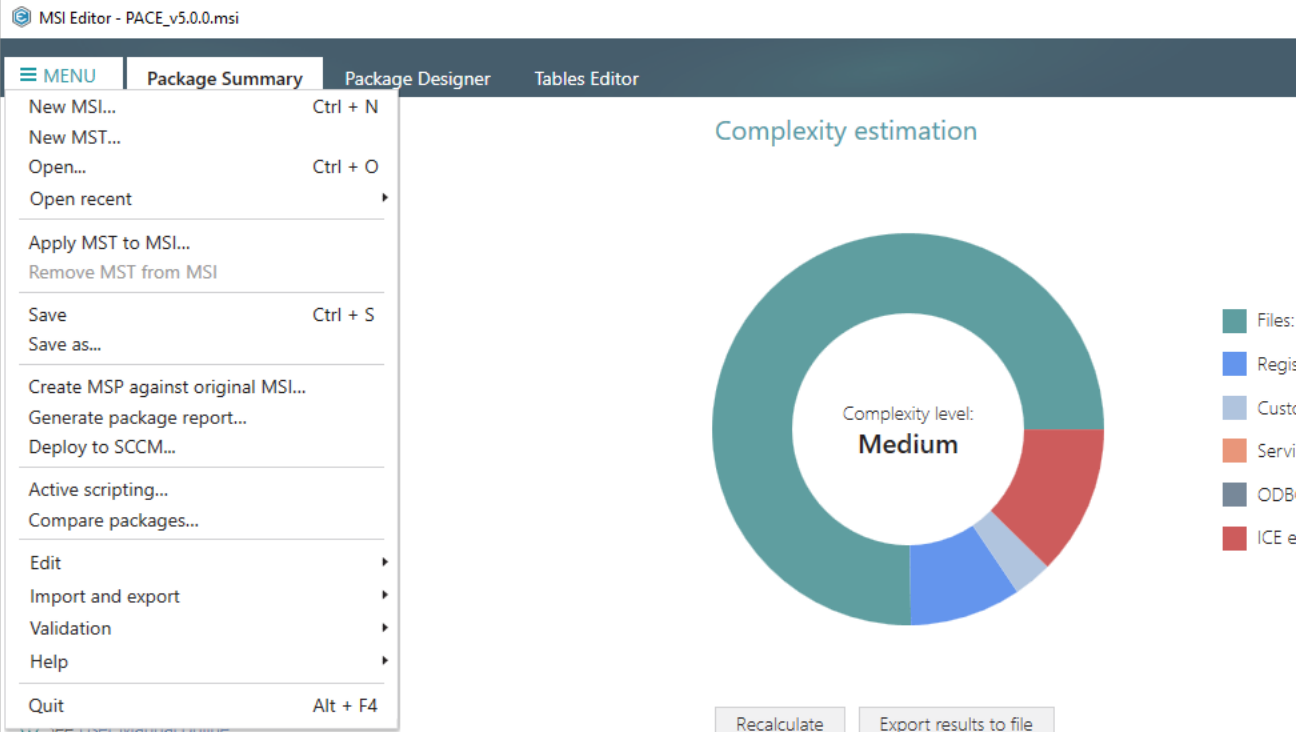
5. Both 3 and 4

On install, the package creates the specified key in the system registry at the selected root, even if this key is empty. By default, empty keys are not created.

On uninstall, the package removes this key completely along with all of its values and subkeys.

NOTE For removing registry values or keys from the system registry before install, add the **Value/key removal** item, described in section 3.7.6.3

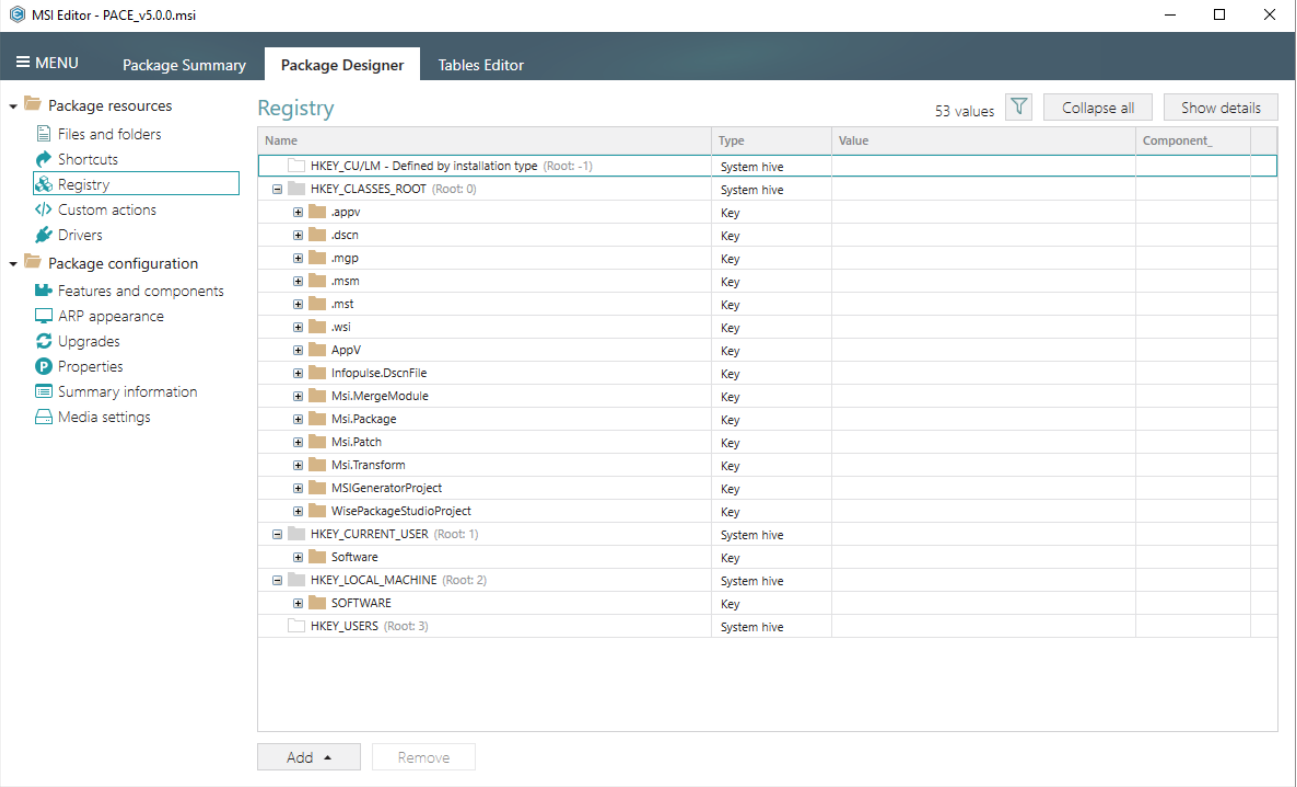
- For saving your package, select Save from the MENU.



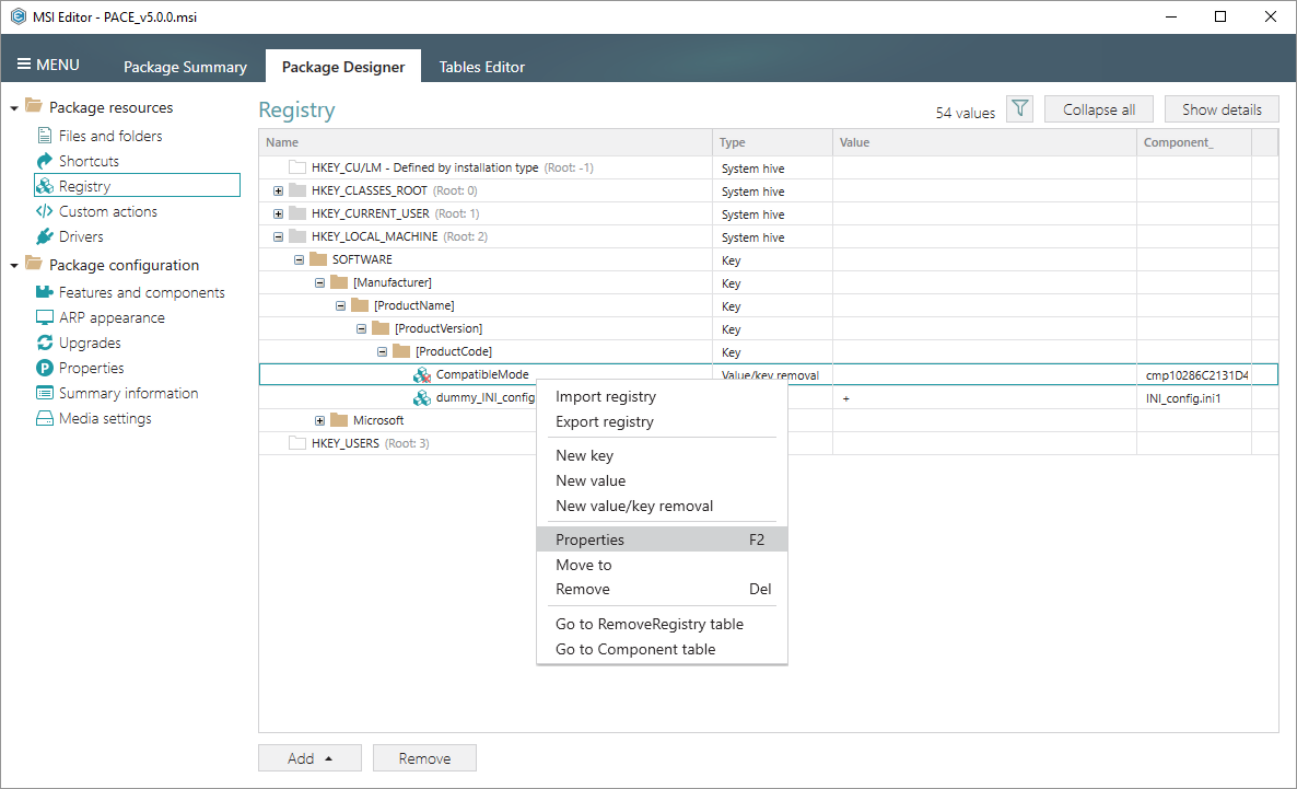
3.7.6.11 Edit Value/Key Removal

Modify details of the selected value/key removal item (RemoveRegistry) to secure a value or a key removal during the package installation.

- Go to the Package Designer -> Registry tab.




- Select **Properties** from the context menu of a 'Value/key removal' item, details of which you want to review and modify.



- Using the Properties window make the necessary changes to a value Name, its Key, Root hive, and Component that controls the deletion of this registry value. Note that the specified registry value will be removed from the system registry at the selected root and key during the package installation, right before new registry values are created.

The Value processing method options defines what will be removed: an ordinary value, a Default key value, or whole key. Below, in the tables, you will find the detailed description of these options. Afterwards, click Save.



MSI table: 'RemoveRegistry'

Value processing method

Remove value on install

Name

CompatibleMode

Identifier

reg_876dc4bd

Key

SOFTWARE\[Manufacturer]\[ProductName]\[ProductVersion]\[ProductCo

Browse...

Root

HKEY_LOCAL_MACHINE (2)

Component

cmp10286C2131D465A0E53FC142F3D0226F

Save

Cancel

Value processing method


Remove value on install

On install, right before new registry values are created, the package removes an ordinary registry value of the specified name from the system registry at the selected root and key.

On uninstall, no additional actions take place.

Clean-up <Default> key value on install

On install, right before new registry values are created, the package cleans-up the Default key value with the specified value in the system registry at the selected root and key. In the system registry, this value is represented as "(Default)":

Name	Type	Data
 (Default)	REG_SZ	(value not set)

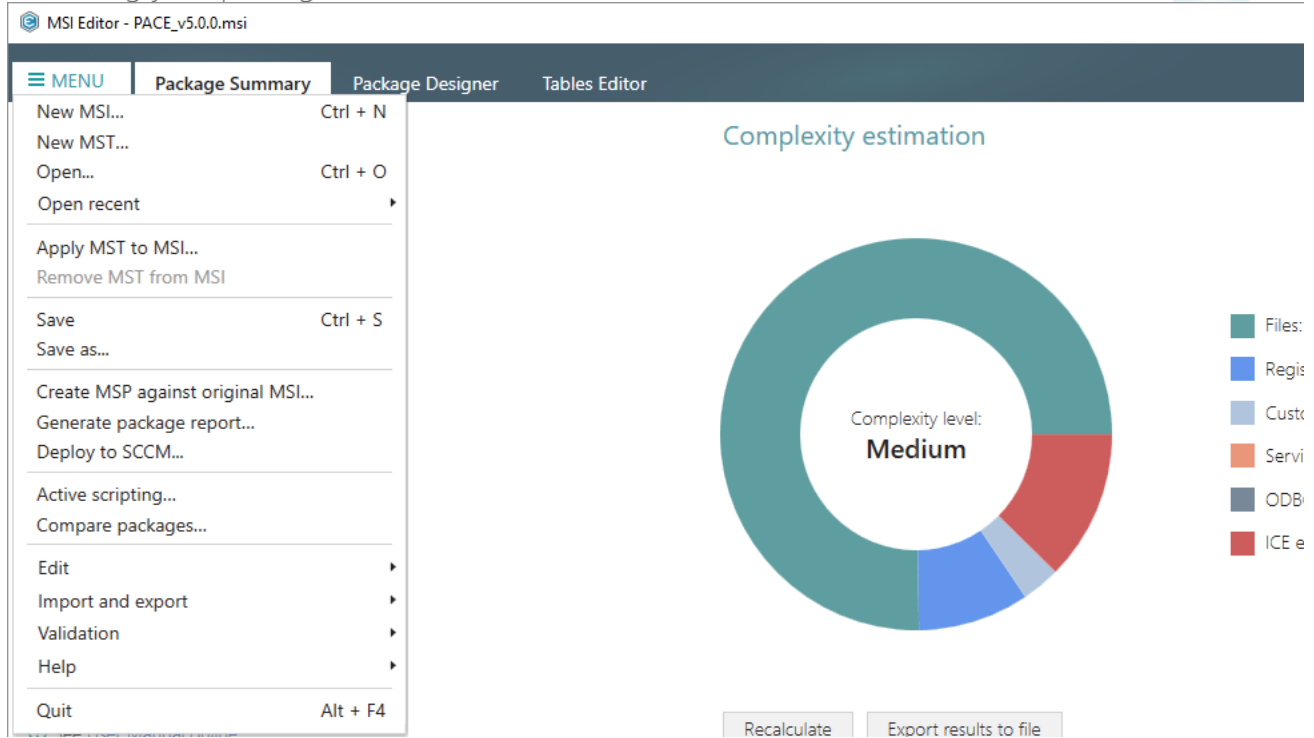
On uninstall, no additional actions take place.

Remove the key with all of its values and subkeys on install

On install, right before new registry values are created, the package removes this key completely along with all of its values and subkeys.

On uninstall, no additional actions take place.

- For saving your package, select Save from the MENU.



3.7.7 Custom Actions

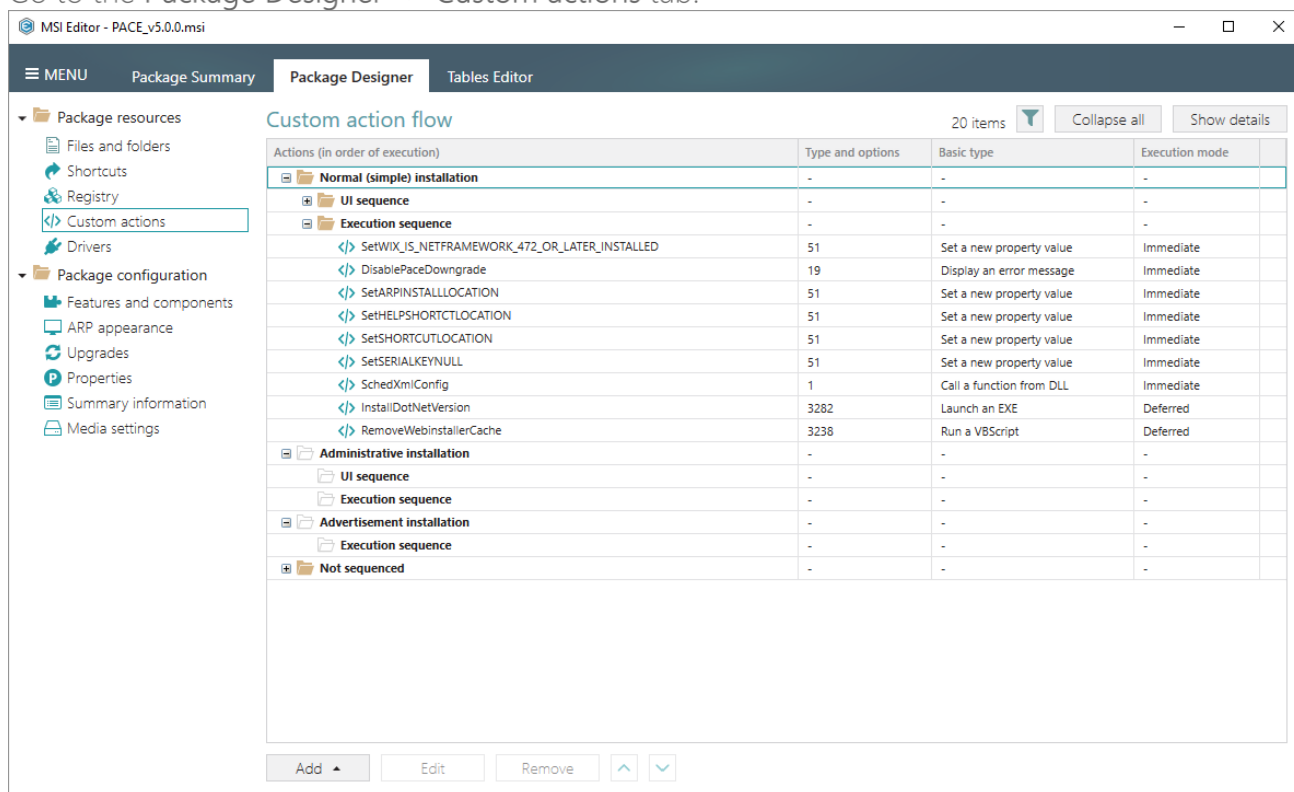
Choose a scenario that better suits your needs:


- **Add Standard Actions**, described in section 3.7.7.1
Add new standard actions to the necessary sequences.
- **Add Custom Action**, described in section 3.7.7.2
Add a new custom action with the aim of launching EXE, calling functions from DLL, running VBScript, Jscript, setting a new property value, folder path, and showing an error message.
- **Run PowerShell script**, described in section 3.7.7.2.1
Run a PowerShell script from MSI on install or uninstall.
- **Edit Custom Action**, described in section 3.7.7.3
Edit basic type, resources, sequence and other settings of the existing custom action.

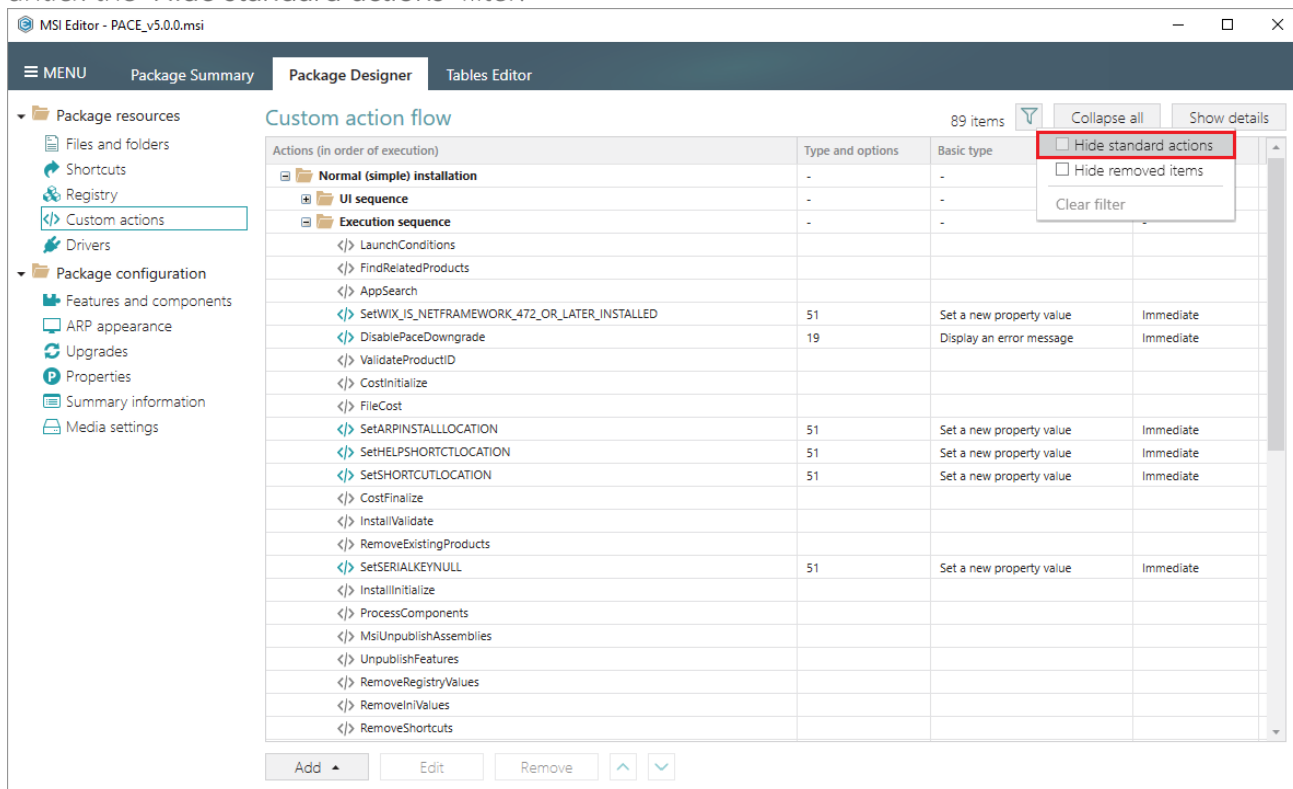
3.7.7.1 Add Standard Actions

Add new standard actions to the necessary sequences of the opened package.

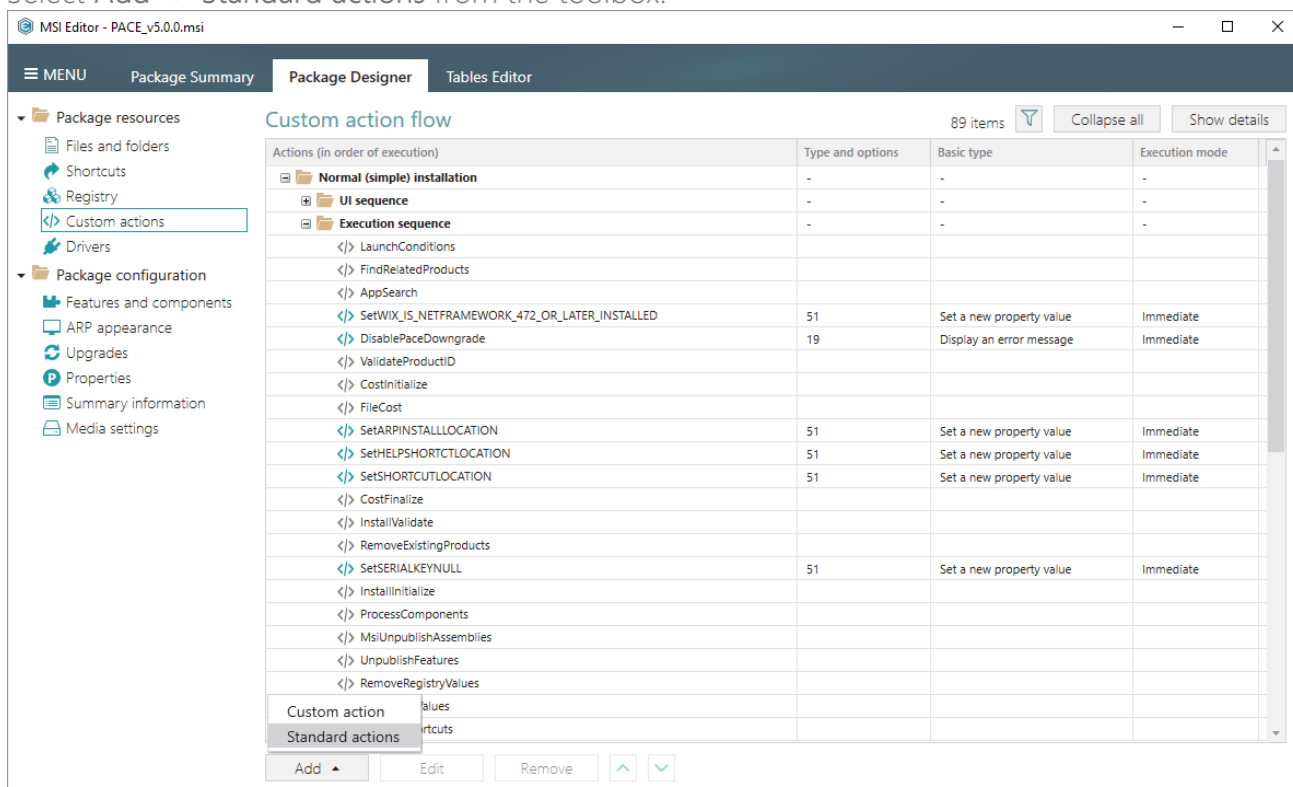
- Go to the Package Designer -> Custom actions tab.



- (Optional) To review the existing standard actions, hidden by default, click on the  and untick the 'Hide standard actions' filter.

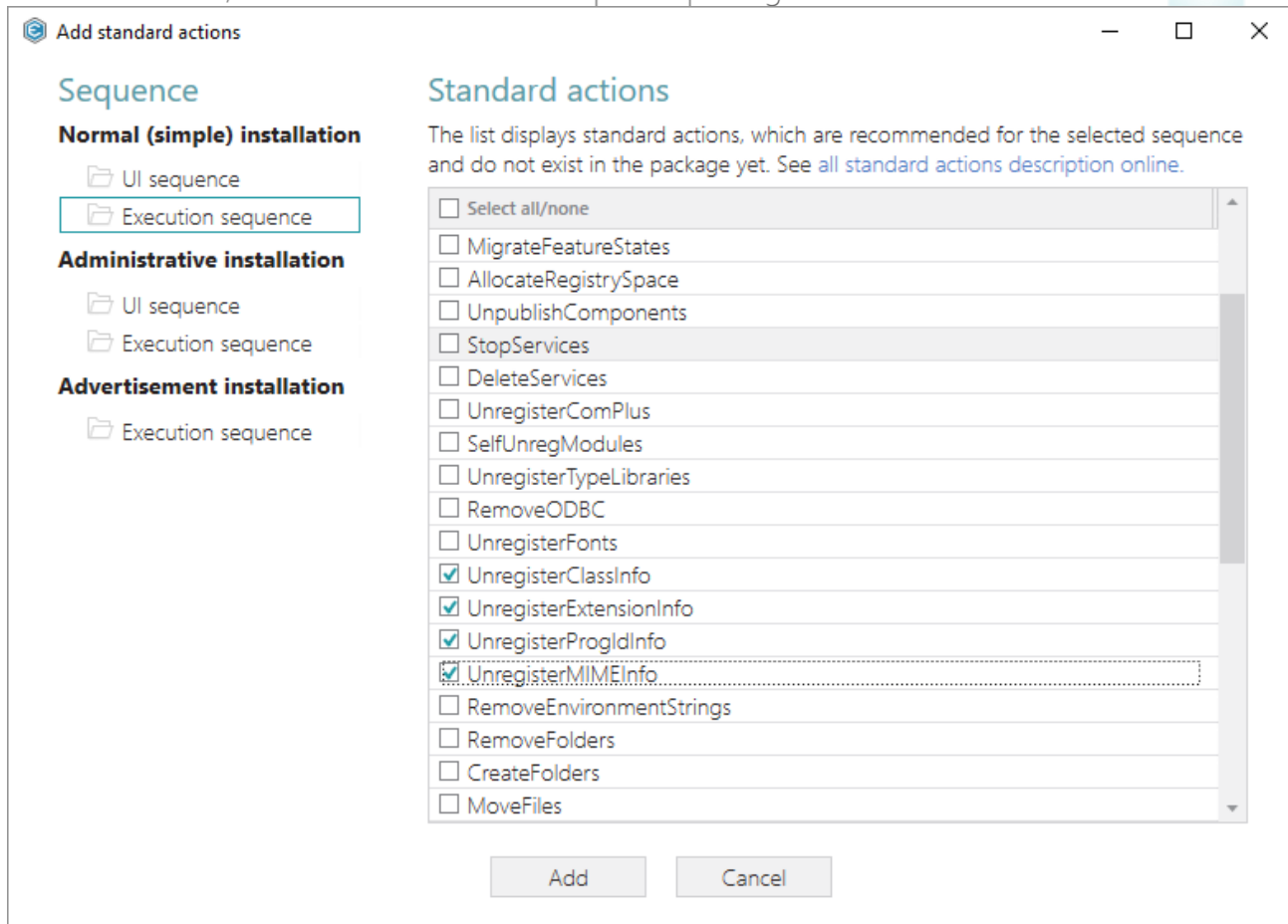


- Select Add -> Standard actions from the toolbox.

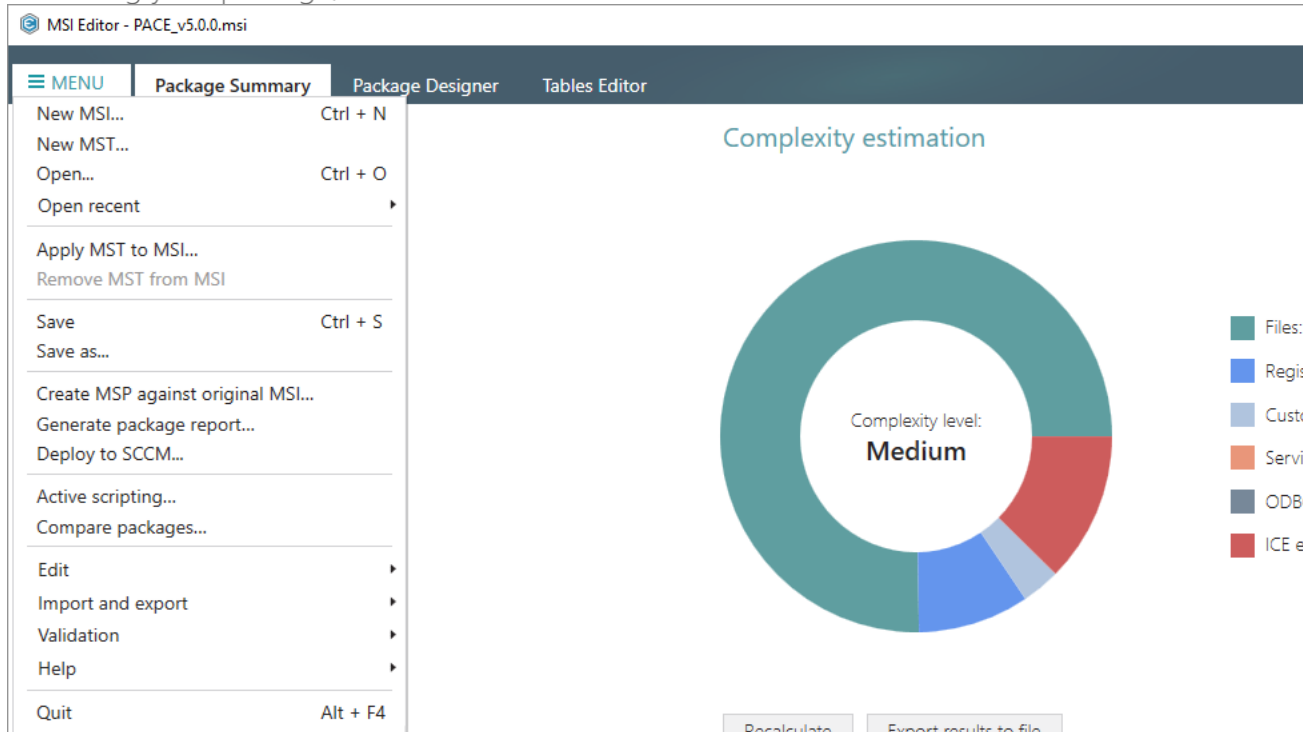


- Select the standard actions, which you want to add, and click Add. Note that you can add many actions to the different installation sequences at once. The list displays only those

standard actions, which do not exist in the opened package.



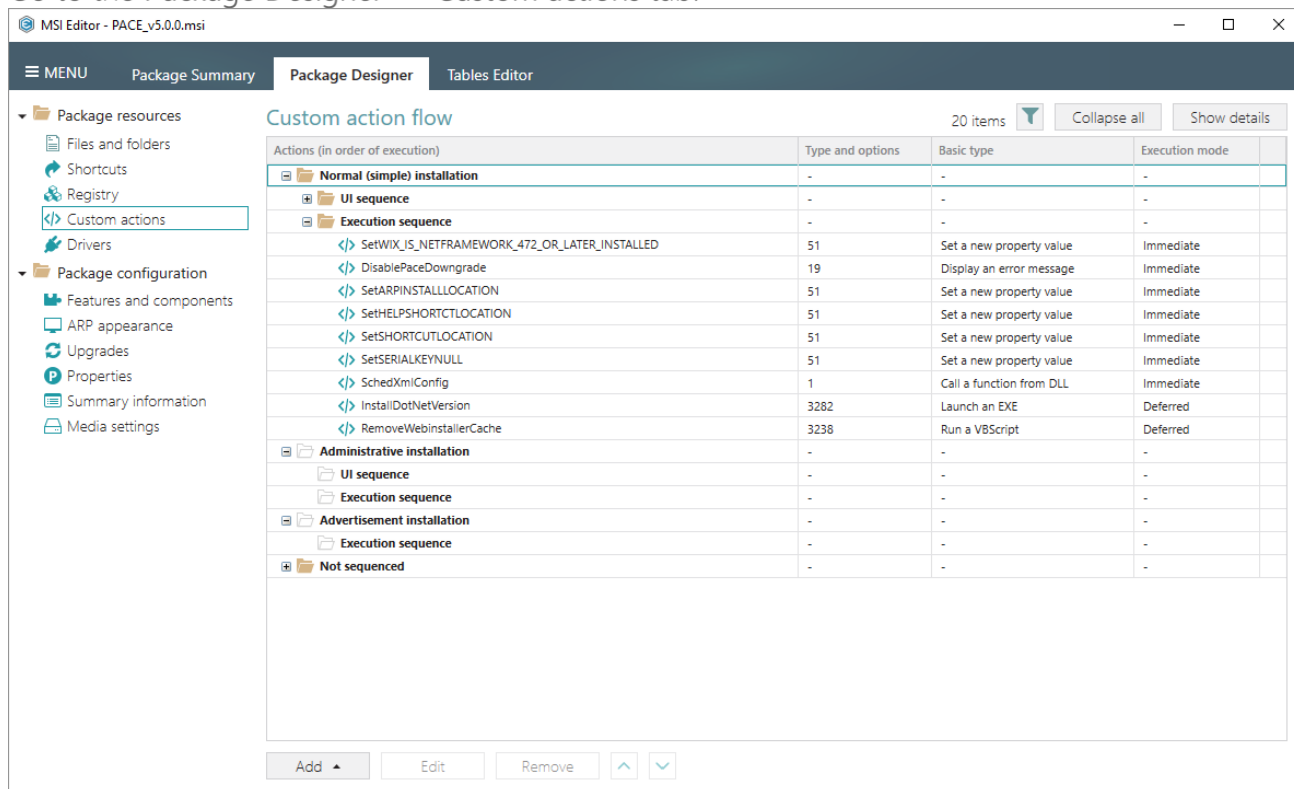
- For saving your package, select Save from the MENU.



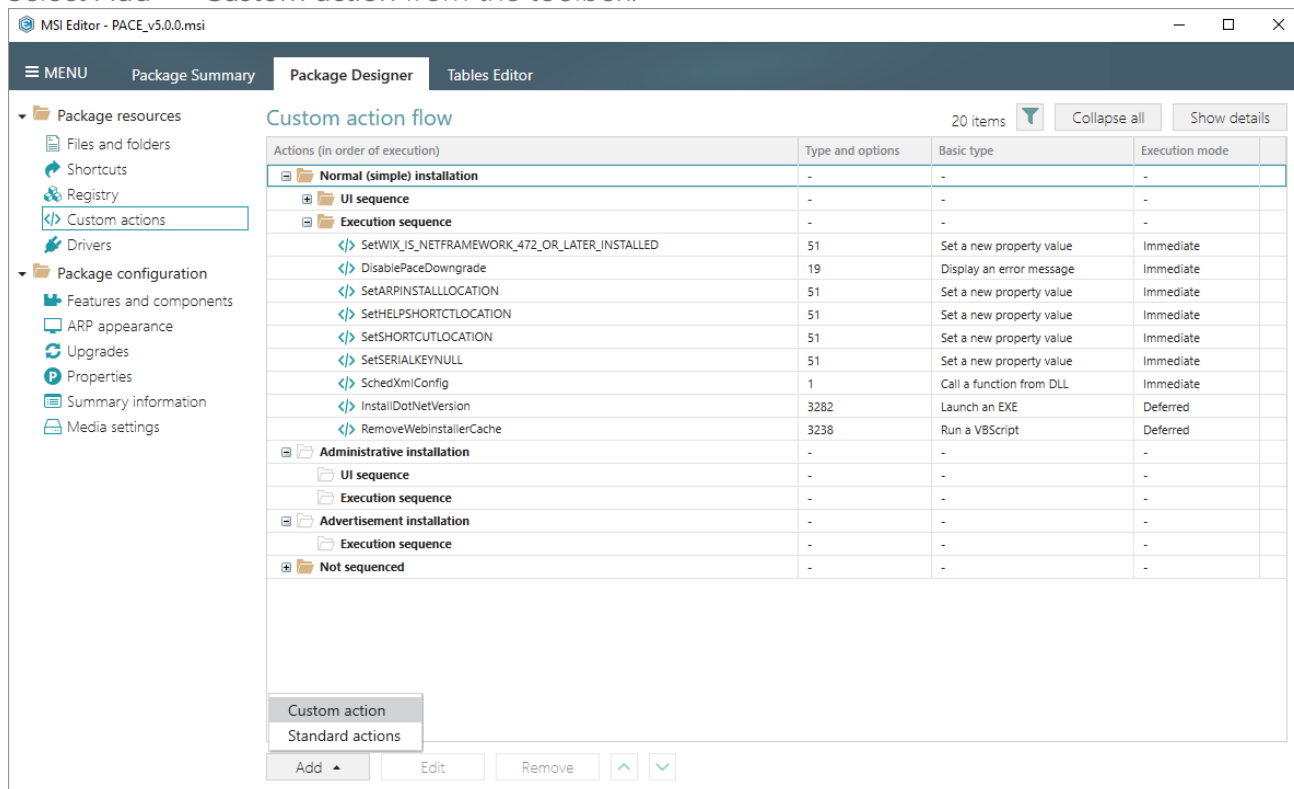
3.7.7.2 Add Custom Action

Add a new custom action with the aim of launching EXE, calling functions from DLL, running VBScript, Jscript, setting a new property value, folder path, and showing an error message.

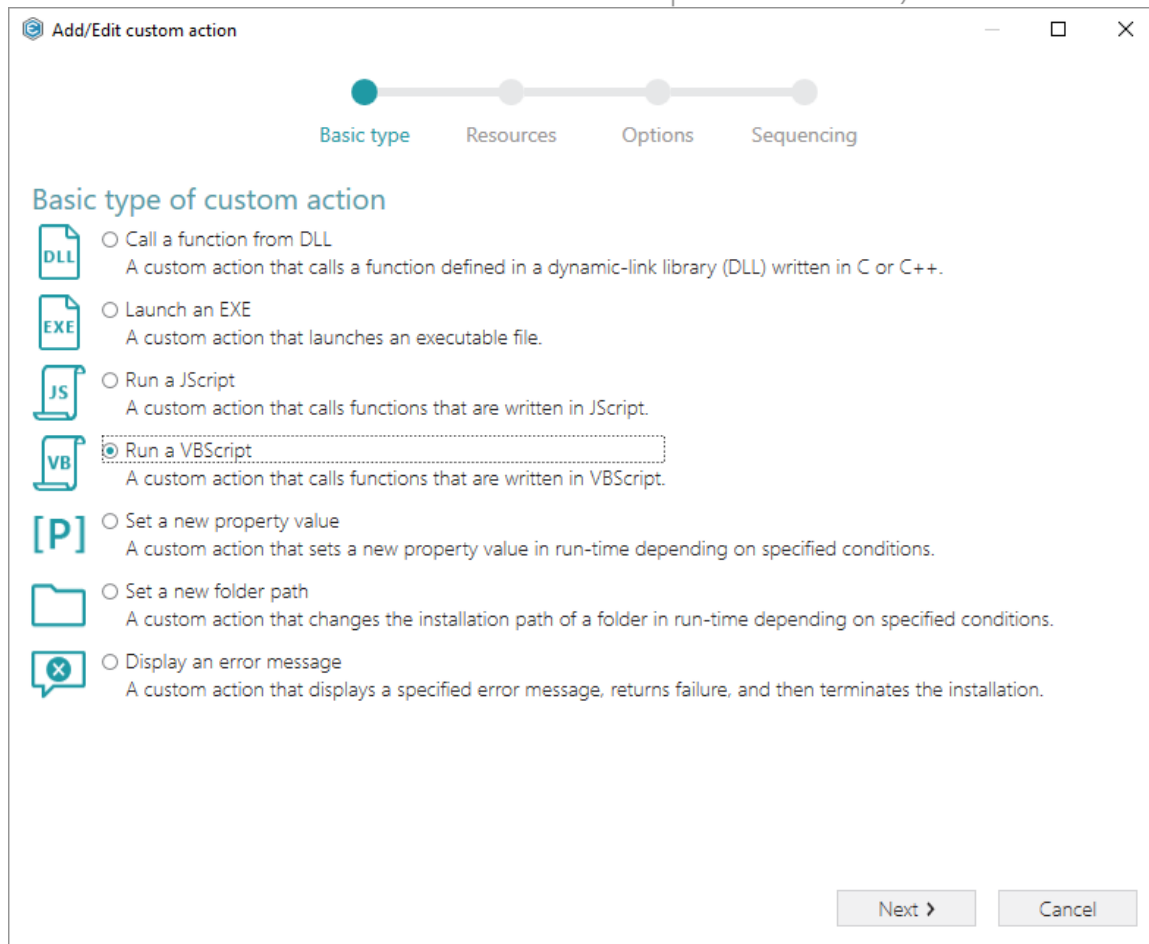
- Go to the Package Designer -> Custom actions tab.



- Select Add -> Custom action from the toolbox.



- Select a basic type of your custom action (e.g. Run a VBScript), and click Next. (The following instruction describes creation of the 'Run a VBScript' custom action).



- Specify where the VBScript file is located or embed a script body directly into the custom action. Then, click Next.

Add/Edit custom action

✓

Basic type
Resources
Options
Sequencing

Run a VBScript

☐ Stored in the temporary binary stream

Binary

New binary

☐ Installed by this package along with this application

File

Browse...

☐ Code of which is specified in the property

Property

New property

☒ Code of which is specified directly in the custom action

Script code

Function Show_Message(msgType, msgText)
if msgType <= msiMaxMessageType then
Set record = Session.Installer.CreateRecord(0)
record.StringData(0) = msgText

Optional function that can be called

Function name

< Back

Next >

Cancel

- At the **Options** step you can set an **Action name**, select **Execution mode** (Immediate, Deferred, Rollback and Commit), execution context, scheduling, return processing and other options. Then, click **Next**.

NOTE All options that are incompatible with the previously selected settings are disabled.

Add/Edit custom action

Basic type Resources **Options** Sequencing

Identification

Action name
CA_VBScript_1

Execution and processing settings

Execution mode
Deferred (Execute the action while the system is being modified)

☐ Run in logged-on user's context
☒ Run in system context
☐ Run with user impersonation during per-machine installs on a terminal server

Scheduling option
Always execute (default)

Return processing option
A synchronous execution that fails if the exit code is not 0

☒ Write the custom action details to the log file
☐ Run JScript or VBScript in 64-bit environment

- The last step allows selecting sequences, where your custom action will be runned. The sequence drop-down list allows you to select only compatible positions, taking into account your previously selected options. Also, you are free to specify execution conditions either by entering them manually or choosing from the drop-down list. Click **Finish** to add your custom action.

NOTE Incompatible sequences are disabled.

The screenshot shows the 'Add/Edit custom action' dialog box with the 'Sequencing' tab selected. At the top, a progress bar indicates four steps: Basic type, Resources, Options, and Sequencing. The 'Normal (simple) installation' section has two dropdowns: 'UI sequence' set to 'Do not run in this sequence' and 'Execution sequence (recommended)' set to 'Run after InstallInitialize'. The 'Administrative installation' section has two dropdowns: 'UI sequence' set to 'Do not run in this sequence' and 'Execution sequence' set to 'Do not run in this sequence'. Below these are text boxes for 'UI sequence conditions' and 'Execution sequence conditions'. A note explains that UI sequences are only processed if the user interface level is set to Reduced or Full. At the bottom are 'Back', 'Finish', and 'Cancel' buttons.

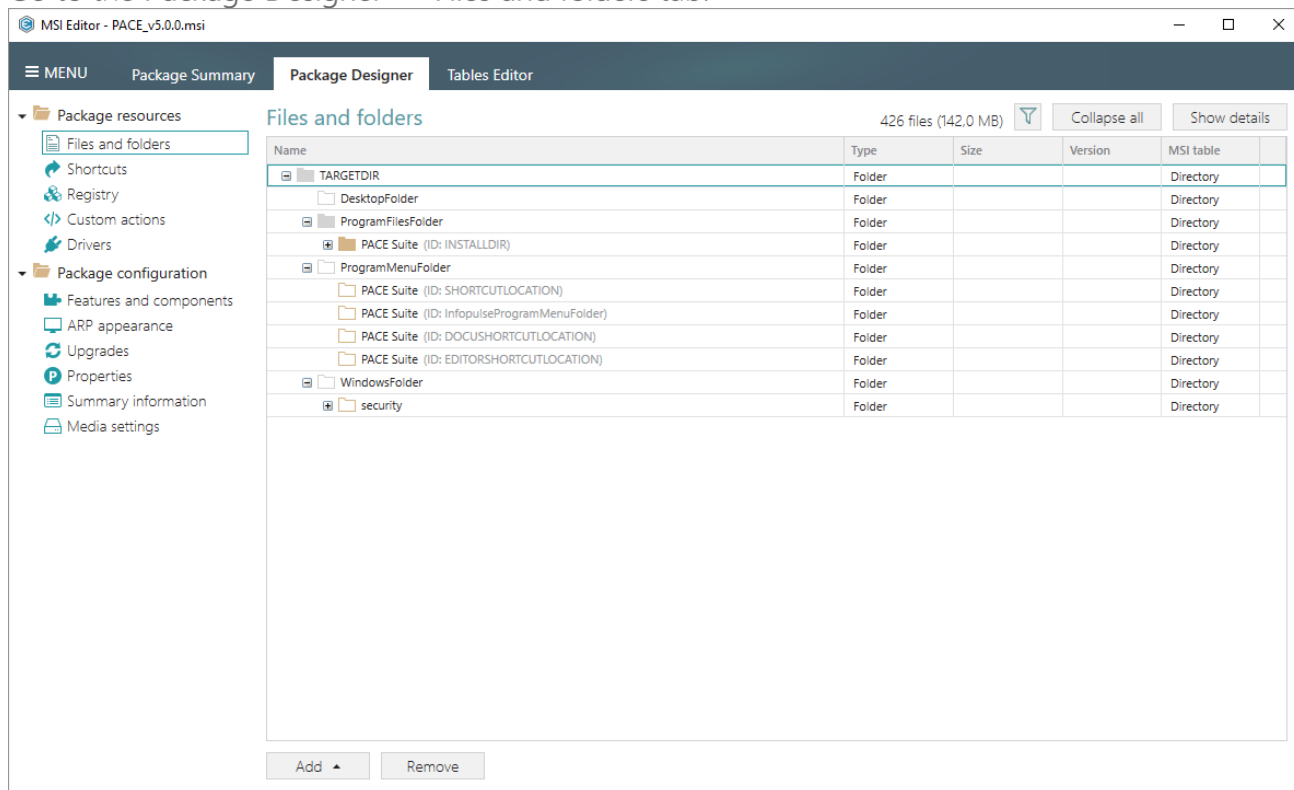
- For saving your package, select **Save** from the **MENU**.

The screenshot shows the 'MSI Editor - PACE_v5.0.0.msi' application. The 'MENU' is open, showing options like 'New MSI...', 'Open...', 'Save', and 'Quit'. The 'Package Summary' tab is active, displaying a 'Complexity estimation' donut chart. The chart shows a 'Complexity level: Medium'. A legend on the right lists components: Files (dark teal), Regis (blue), Custr (light blue), Servi (orange), ODB (dark grey), and ICE e (red). At the bottom are 'Recalculate' and 'Export results to file' buttons.

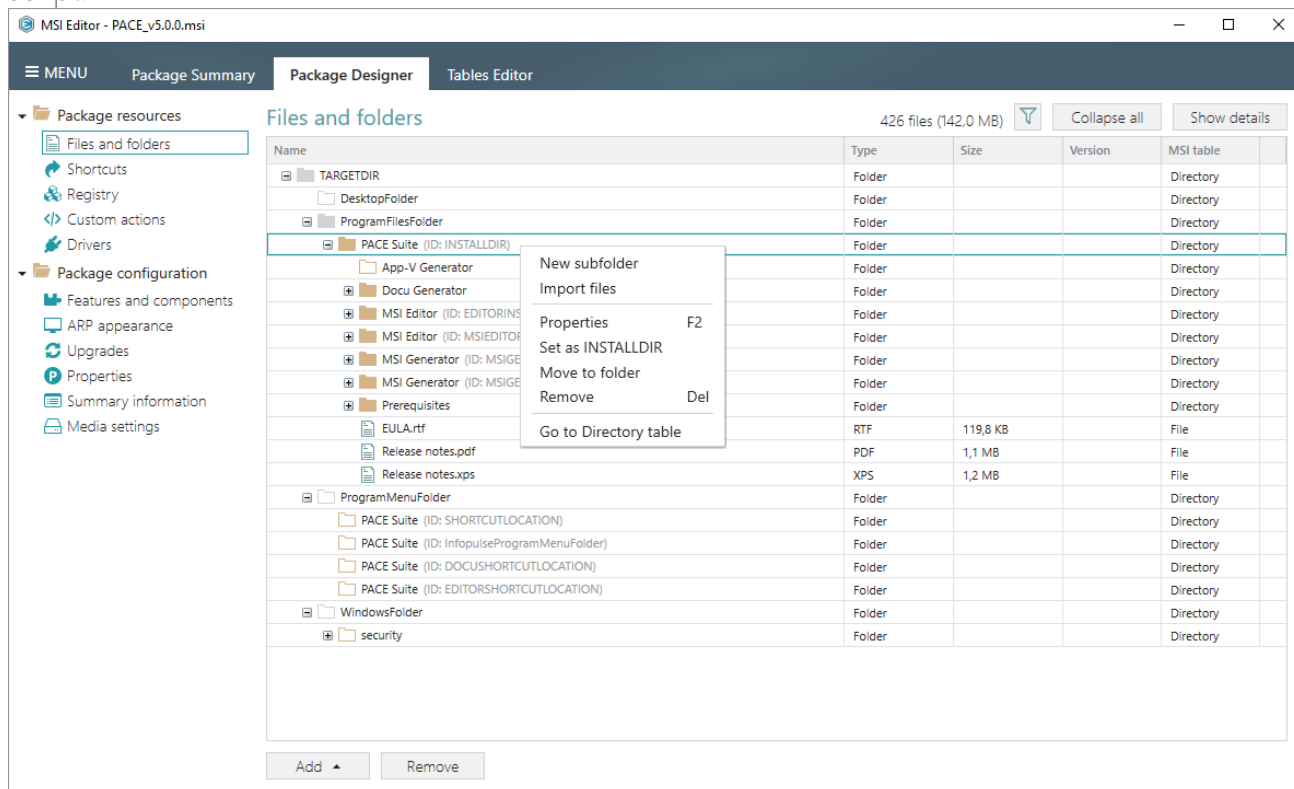
3.7.7.2.1 Run PowerShell script

Run a PowerShell script from MSI on install or uninstall. This solution consists of two parts: (1) importing PowerShell script to the package; (2) adding a Custom action for running this script.

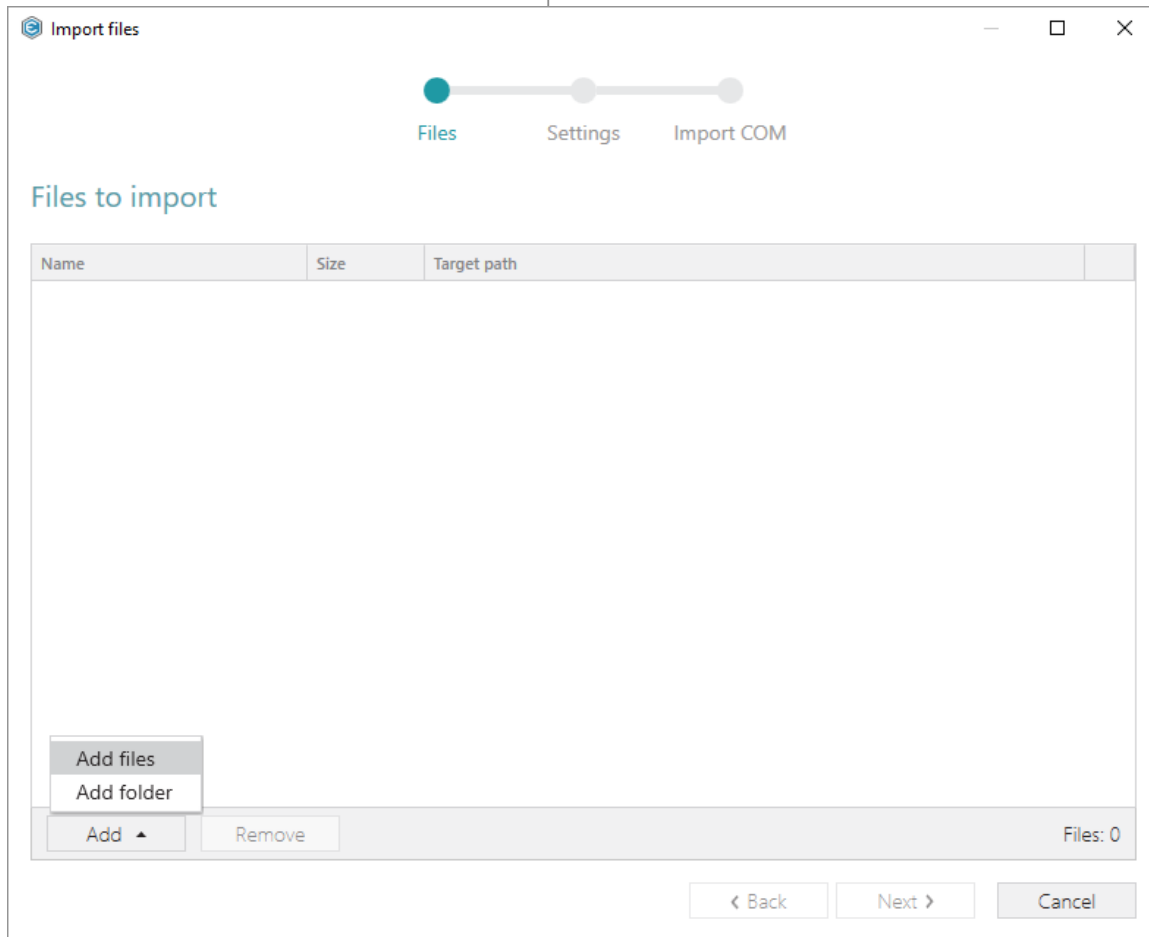
- Go to the Package Designer -> Files and folders tab.



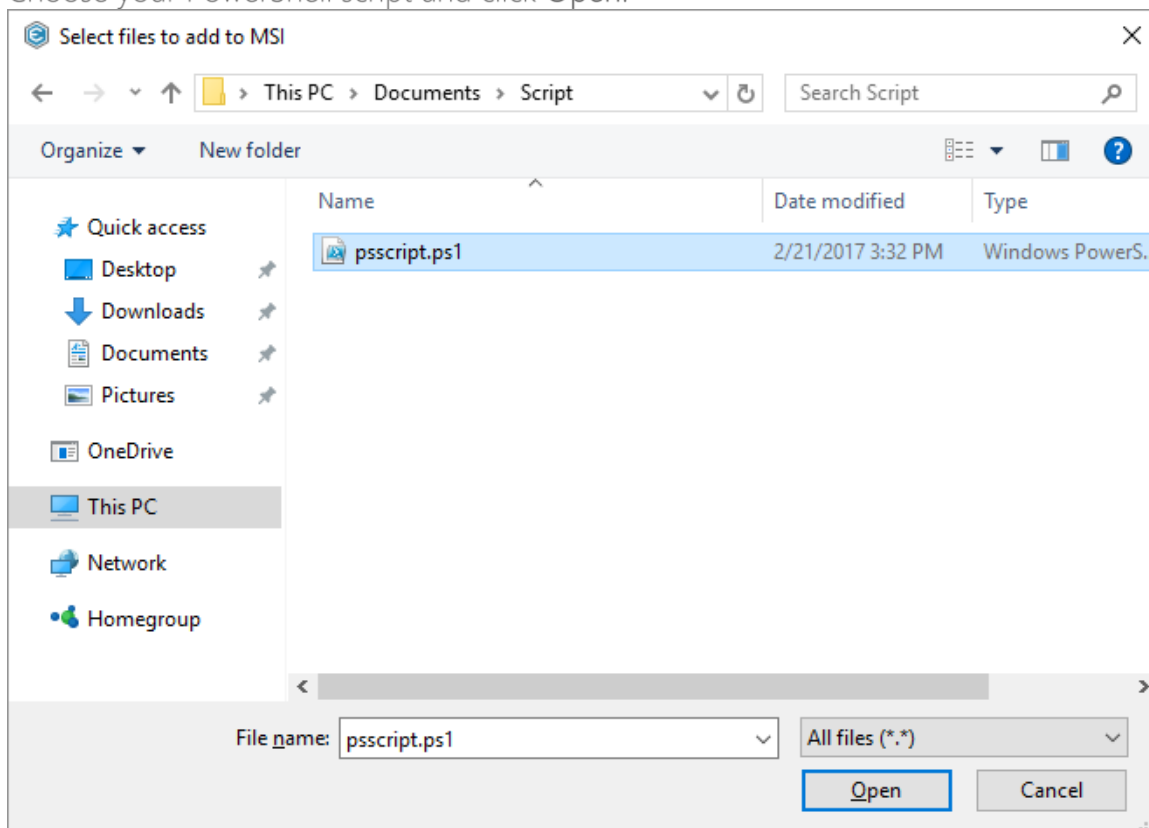
- Select Import files from the context menu of a folder, to which you want to import PowerShell script.



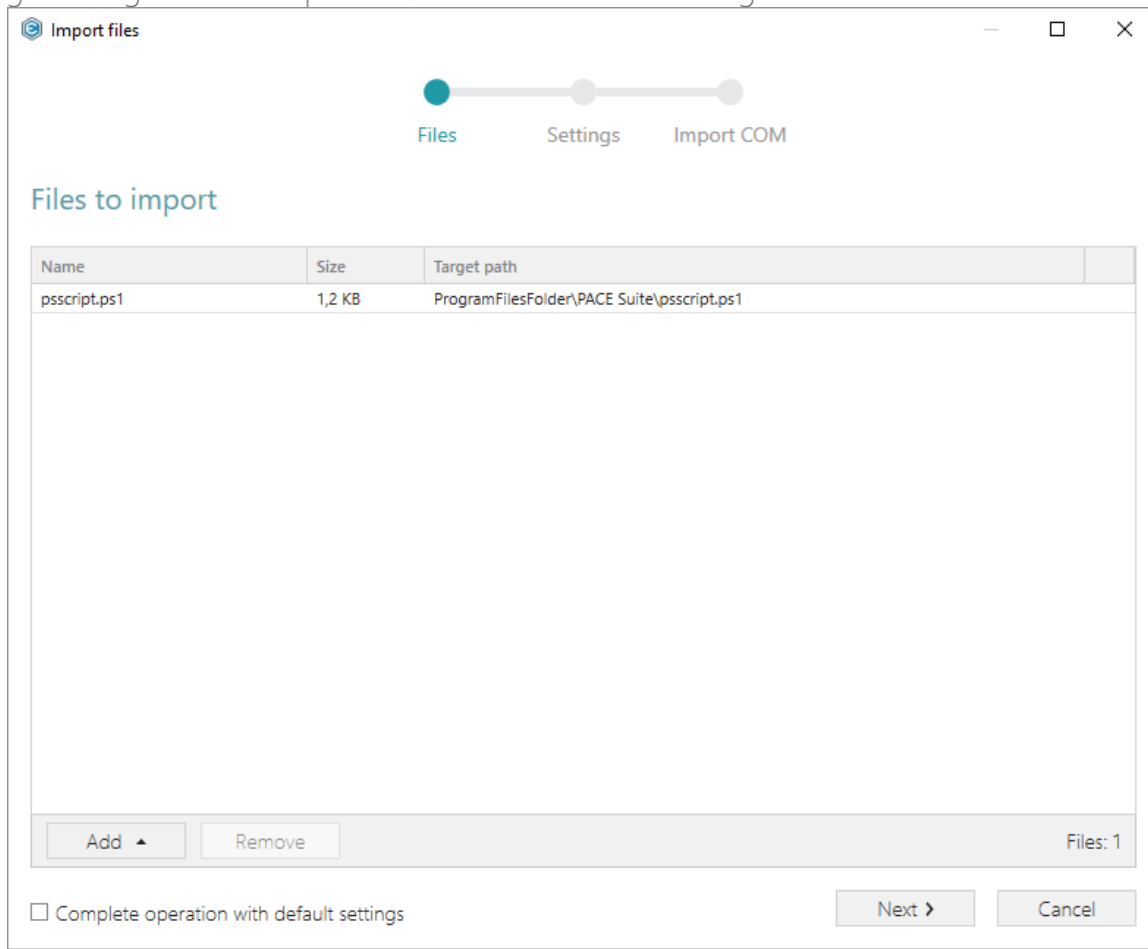
- Click Add -> Add files to choose the script.



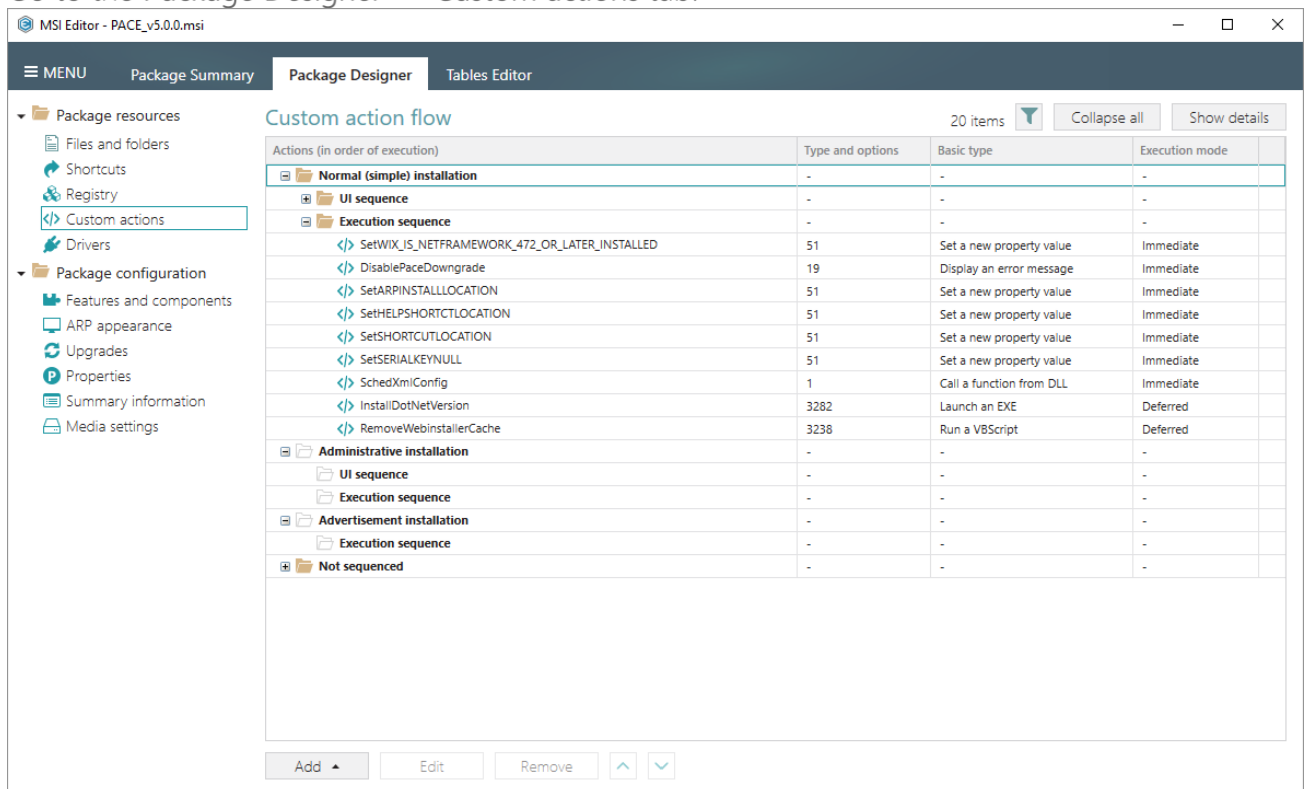
- Choose your PowerShell script and click Open.



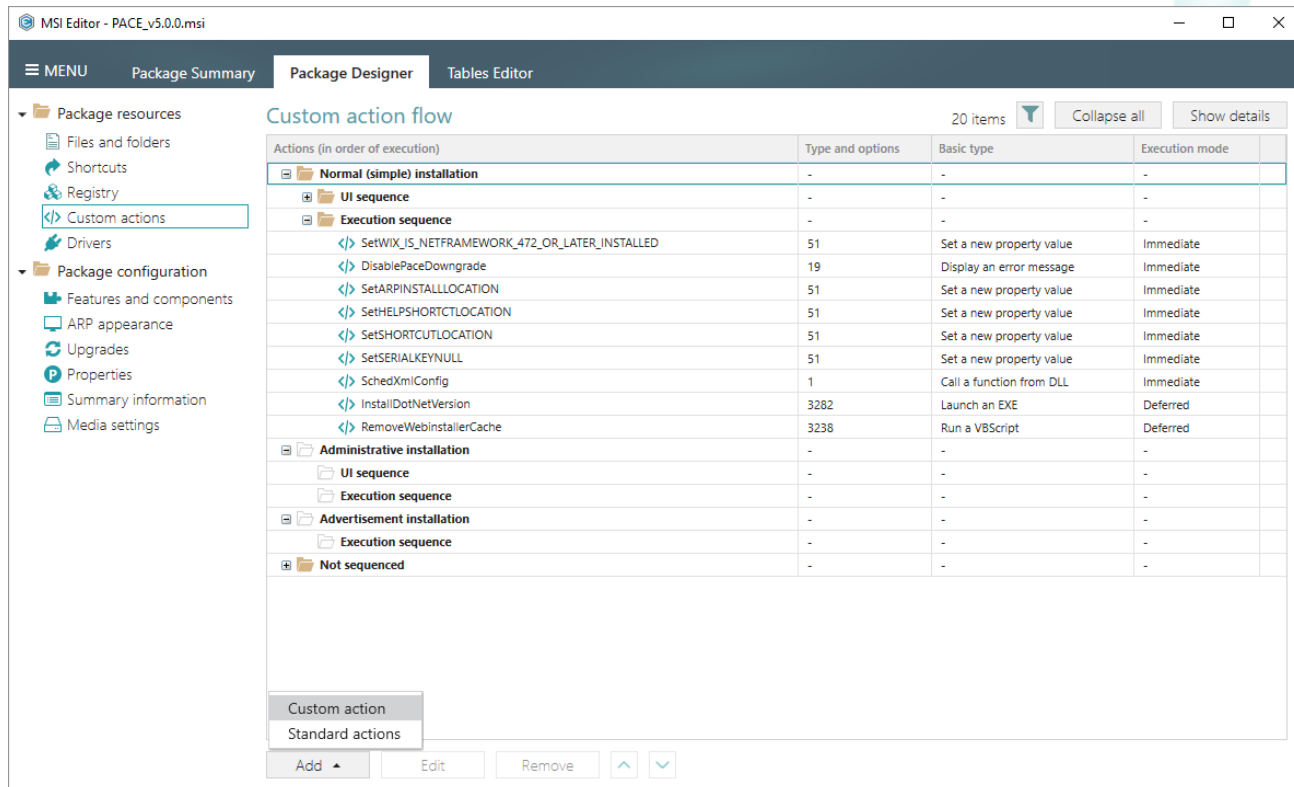
- Tick the Complete operation with default settings option and click Finish. Alternatively, you can go through all the steps and choose the desired settings.



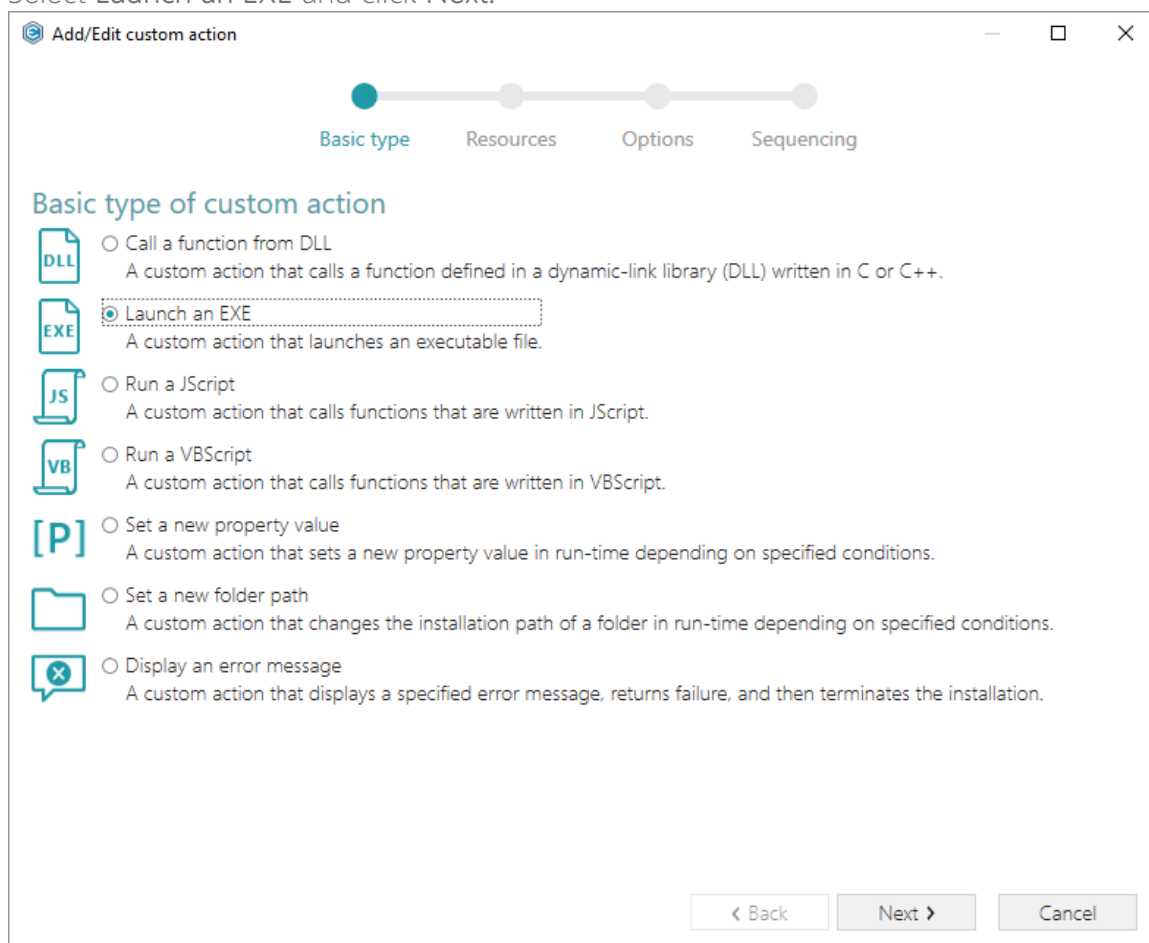
- Go to the Package Designer -> Custom actions tab.



- Select Add -> Custom action from the toolbox.



- Select Launch an EXE and click Next.



- Select the Located on the system at the path, which is specified in the Command line field, in the selected working folder and click Browse.

Add/Edit custom action

✓

Basic type
Resources
Options
Sequencing

Launch an EXE

☐ Stored in the temporary binary stream

Binary

New binary

☐ Installed by this package along with this application

File

Browse...

☐ Located on the system at the path, which is specified in the property

Property

New property

☒ Located on the system at the path, which is specified in the Command line field, in the selected working folder

Working folder

Browse...

Command line string for executable

Command line

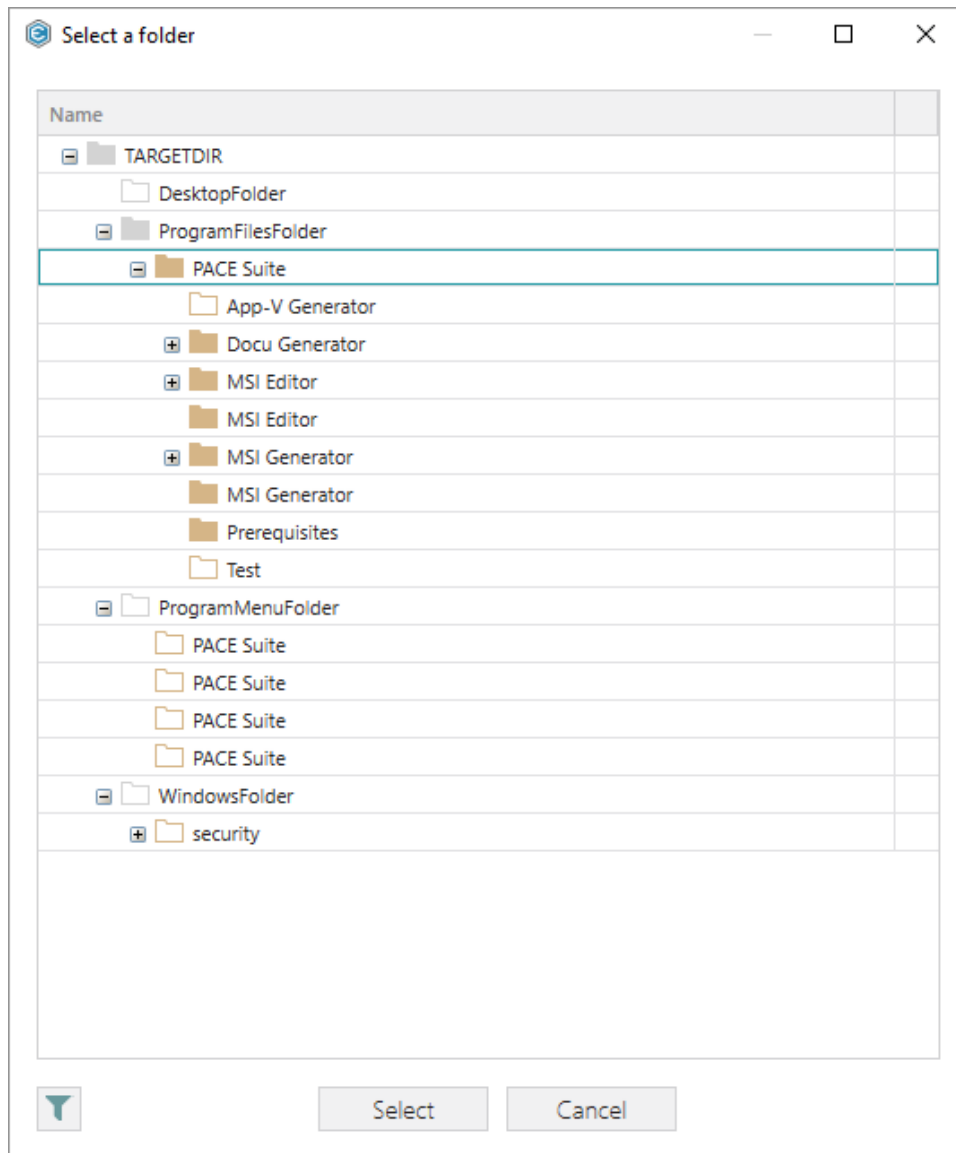
NOTE Quotation marks must be used around long file names or paths. The value is treated as formatted text and may contain references to properties, files, folders, environment variables or other formatted text attributes. See [formatted text description online](#).

< Back

Next >

Cancel

- Select a script-containing folder, to which you have imported the PowerShell script and then, click Select.



- Enter the `powershell.exe -ExecutionPolicy Bypass -File "<script file name>.ps1"` to the Command line field, where `<script file name>` is replaced with a name of your PowerShell script (e.g. `psscript.ps1`). Then, click Next.

Add/Edit custom action

Basic type **Resources** Options Sequencing

Launch an EXE

☐ Stored in the temporary binary stream
Binary

☐ Installed by this package along with this application
File

☐ Located on the system at the path, which is specified in the property
Property

☒ Located on the system at the path, which is specified in the Command line field, in the selected working folder
Working folder

ProgramFilesFolder\PACE Suite (ID: INSTALLDIR)

Command line string for executable

Command line

powershell.exe -ExecutionPolicy Bypass -File "psscript.ps1"

NOTE Quotation marks must be used around long file names or paths. The value is treated as formatted text and may contain references to properties, files, folders, environment variables or other formatted text attributes. See [formatted text description online](#).

< Back Next > Cancel

NOTE -ExecutionPolicy Bypass parameter was added to make sure the custom action will always execute regardless of the current execution policy on the system.

- Select the Deferred execution mode, and the Run in system context option. From the Return processing options list, choose An asynchronous execution that waits for exit code at the end of the sequence, and click Next.

Add/Edit custom action

Basic type Resources **Options** Sequencing

Identification

Action name
CA_Run_PowerShell

Execution and processing settings

Execution mode
Deferred (Execute the action while the system is being modified)

☐ Run in logged-on user's context
☒ Run in system context
☐ Run with user impersonation during per-machine installs on a terminal server

Scheduling option
Always execute (default)

Return processing option
An asynchronous execution that waits for exit code at the end of the sequence

☒ Write the custom action details to the log file
☐ Run JScript or VBScript in 64-bit environment

< Back Next > Cancel

- From the Execution sequence (recommended) list, select Run after InstallFiles (or any other position, located below). If needed, specify the execution conditions - enter them manually or choose from the dropped list. Click Finish to add your custom action for running PowerShell script.

Add/Edit custom action

Basic type

Resources

Options

Sequencing

Normal (simple) installation

UI sequence

Do not run in this sequence

Execution sequence (recommended)

Run after InstallFiles

UI sequence conditions

Execution sequence conditions

Administrative installation

UI sequence

Do not run in this sequence

Execution sequence

Do not run in this sequence

UI sequence conditions

Execution sequence conditions

NOTE The UI sequences, which typically contain standard actions related to collecting system information, are only processed if the user interface level is set to Reduced or Full; and, respectively are skipped if level is set to basic UI or no UI.

An administrative installation is typically initiated by a network administrator to assign and install applications for individual users and groups of users.

The advertisement installation sequence is not present on this step because it cannot be used for custom actions.

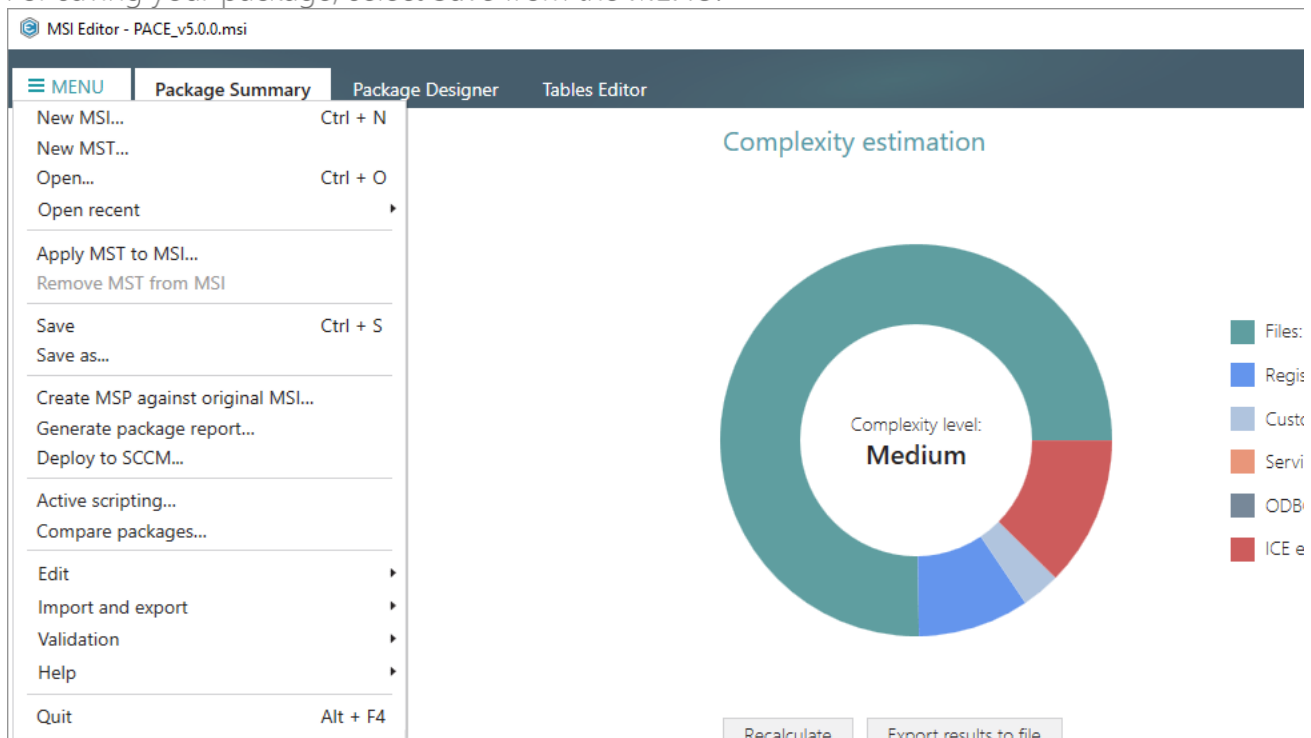
For information on the sequence conditions, see [Conditional Statement Syntax online](#).

Back

Finish

Cancel

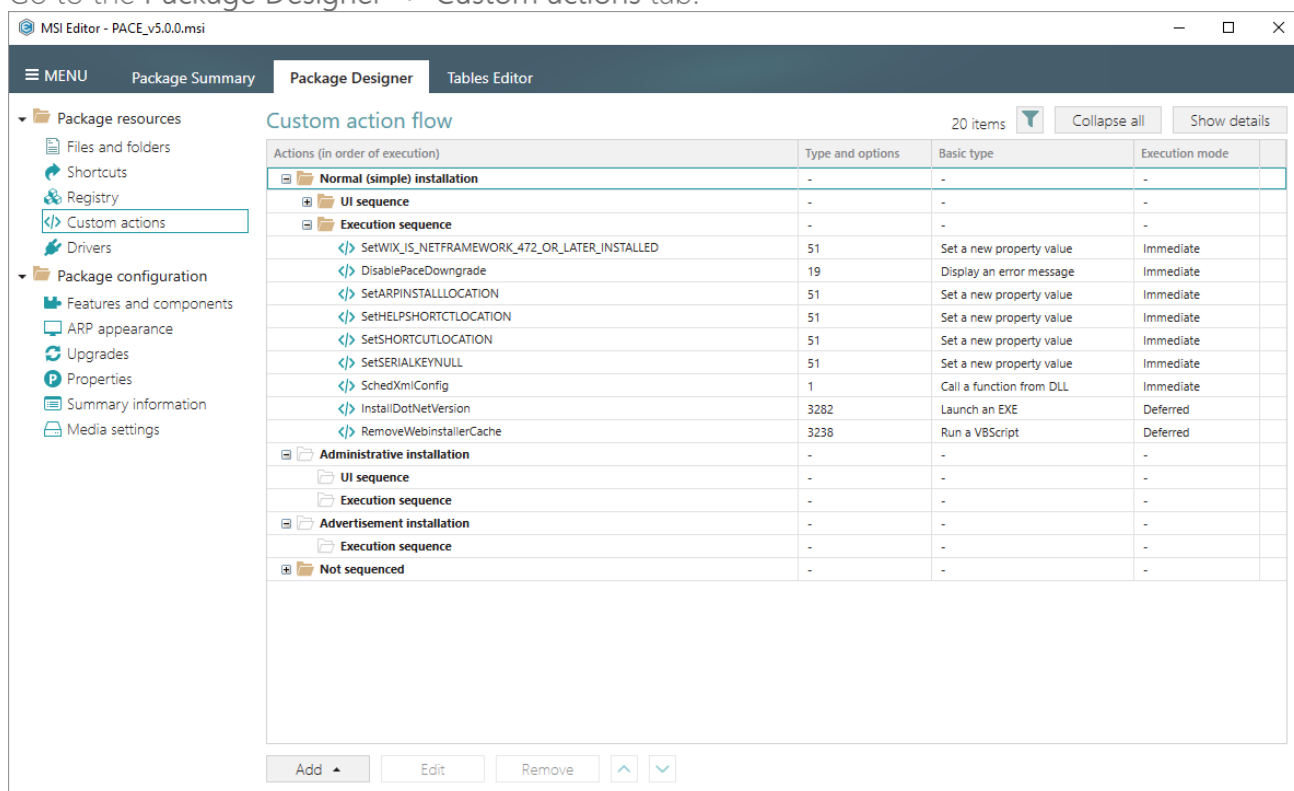
- For saving your package, select **Save** from the **MENU**.



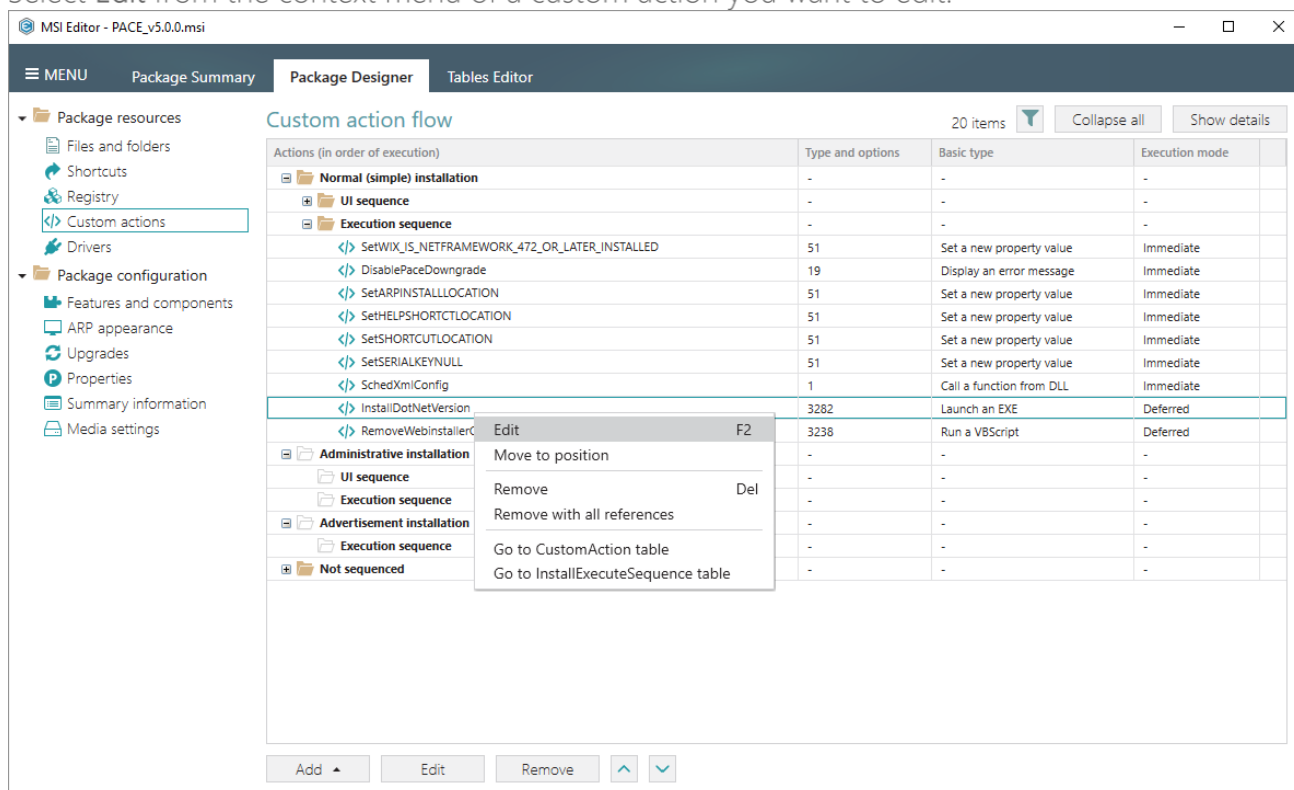
3.7.7.3 Edit Custom Action

Edit basic type, resources, sequence and other settings of the existing custom action.

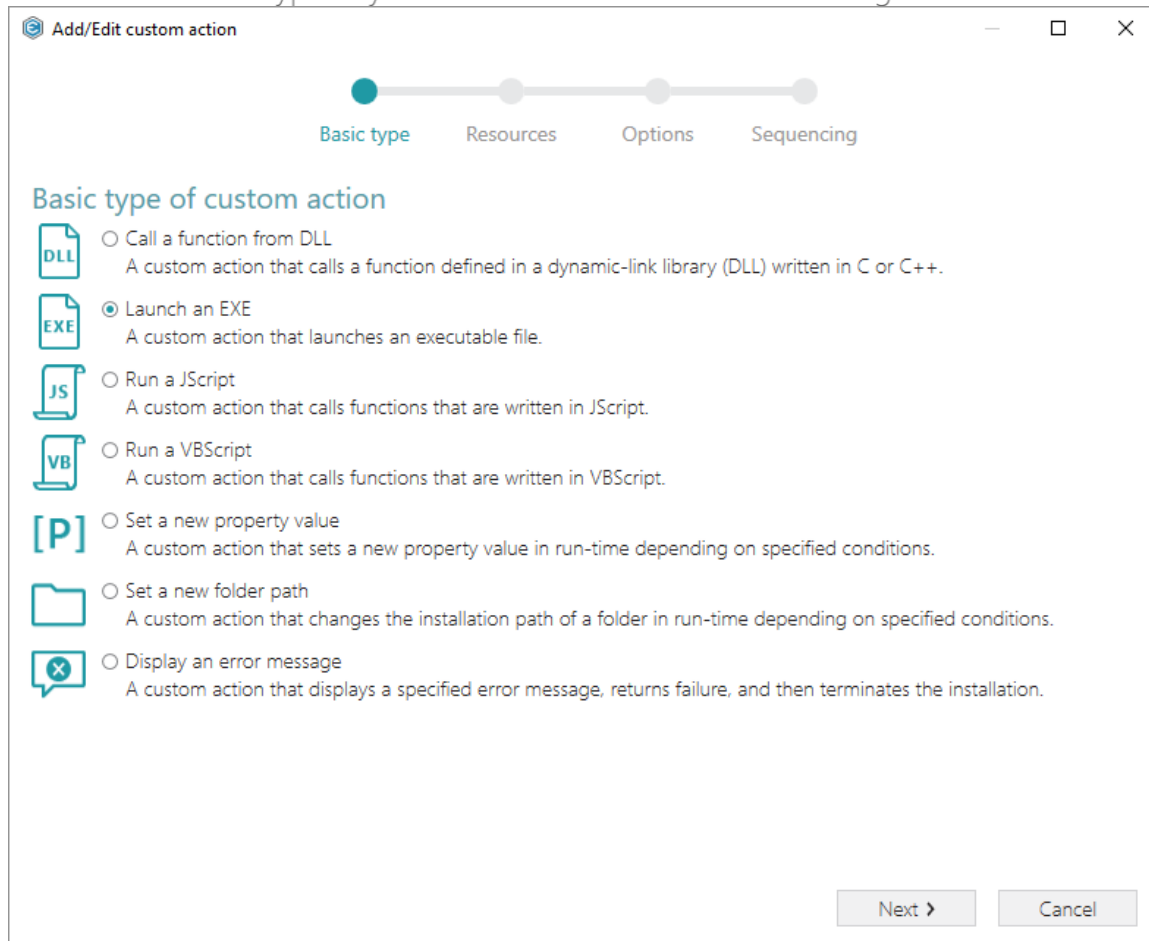
- Go to the Package Designer -> Custom actions tab.



- Select Edit from the context menu of a custom action you want to edit.



- Define a new basic type of your custom action or leave the existing one and click **Next**.



- On the second step you can specify a new file, launched by the custom action. Click Next to continue.

NOTE The wizard displays only compatible fields and options for the previously selected custom action basic type.

The screenshot shows the 'Add/Edit custom action' wizard window. At the top, a progress bar indicates four steps: Basic type, Resources, Options, and Sequencing. The 'Resources' step is currently active, marked with a checkmark. Below the progress bar, the title 'Launch an EXE' is displayed. There are four radio button options for where the EXE is located:

- ☐ Stored in the temporary binary stream
Binary: [Text field with dropdown arrow] [New binary]
- ☒ Installed by this package along with this application
File: [Text field containing 'ProgramFilesFolder\PACE Suite\Prerequisites\NDP462-KB3151802-Web.exe (ID: NDP462KB3151802Web)'] [Browse...]
- ☐ Located on the system at the path, which is specified in the property
Property: [Text field with dropdown arrow] [New property]
- ☐ Located on the system at the path, which is specified in the Command line field, in the selected working folder
Working folder: [Text field] [Browse...]

Below these options is a section titled 'Command line string for executable' with a 'Command line' label and a large text input field.

A note at the bottom states: 'NOTE Quotation marks must be used around long file names or paths. The value is treated as formatted text and may contain references to properties, files, folders, environment variables or other formatted text attributes. See [formatted text description online](#).'

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

- At the **Options** step you can set an **Action name**, select **Execution mode** (Immediate, Deferred, Rollback and Commit), execution context, scheduling, return processing and other options. Then, click **Next**.

NOTE All options that are incompatible with the previously selected settings are disabled.

Add/Edit custom action

Basic type Resources **Options** Sequencing

Identification

Action name
InstallDotNetVersion

Execution and processing settings

Execution mode
Deferred (Execute the action while the system is being modified)

☐ Run in logged-on user's context
☒ Run in system context
☐ Run with user impersonation during per-machine installs on a terminal server

Scheduling option
Always execute (default)

Return processing option
An asynchronous execution that does not wait for completion

☒ Write the custom action details to the log file
☐ Run JScript or VBScript in 64-bit environment

- At the last step, you can change a position, where you would like to run your custom action. The sequence drop-down list allows you to select only compatible positions, taking into account your previously selected options. Also, you free to update the execution conditions either by entering them manually or choosing from the drop-down list. Click **Finish** to update your custom action.

NOTE Incompatible sequences are disabled.

The screenshot shows the 'Add/Edit custom action' dialog box with the 'Sequencing' tab selected. At the top, a progress bar indicates four steps: Basic type, Resources, Options, and Sequencing, with the first three marked as completed. The 'Normal (simple) installation' section has two rows: 'UI sequence' with a dropdown set to 'Do not run in this sequence' and 'UI sequence conditions' with an empty text box; 'Execution sequence (recommended)' with a dropdown set to 'Run after PublishProduct' and 'Execution sequence conditions' with the text '(NOT Installed) AND (NOT WIX_IS_NETFRAMEWORK_462_OR...'. The 'Administrative installation' section also has two rows: 'UI sequence' with a dropdown set to 'Do not run in this sequence' and 'UI sequence conditions' with an empty text box; 'Execution sequence' with a dropdown set to 'Do not run in this sequence' and 'Execution sequence conditions' with an empty text box. Below these sections is a note about UI sequences and a link to 'Conditional Statement Syntax online'. At the bottom are 'Back', 'Finish', and 'Cancel' buttons.

- For saving your package, select **Save** from the **MENU**.

The screenshot shows the 'MSI Editor - PACE_v5.0.0.msi' application. The 'MENU' is open, showing options like 'New MSI...', 'Open...', 'Save', 'Generate package report...', and 'Quit'. The 'Package Summary' tab is active, displaying a 'Complexity estimation' donut chart. The chart shows a 'Complexity level: Medium'. A legend on the right lists categories: Files (dark teal), Regis (blue), Custr (light blue), Servi (orange), ODB (dark grey), and ICE e (red). At the bottom are 'Recalculate' and 'Export results to file' buttons.

3.7.8 Drivers

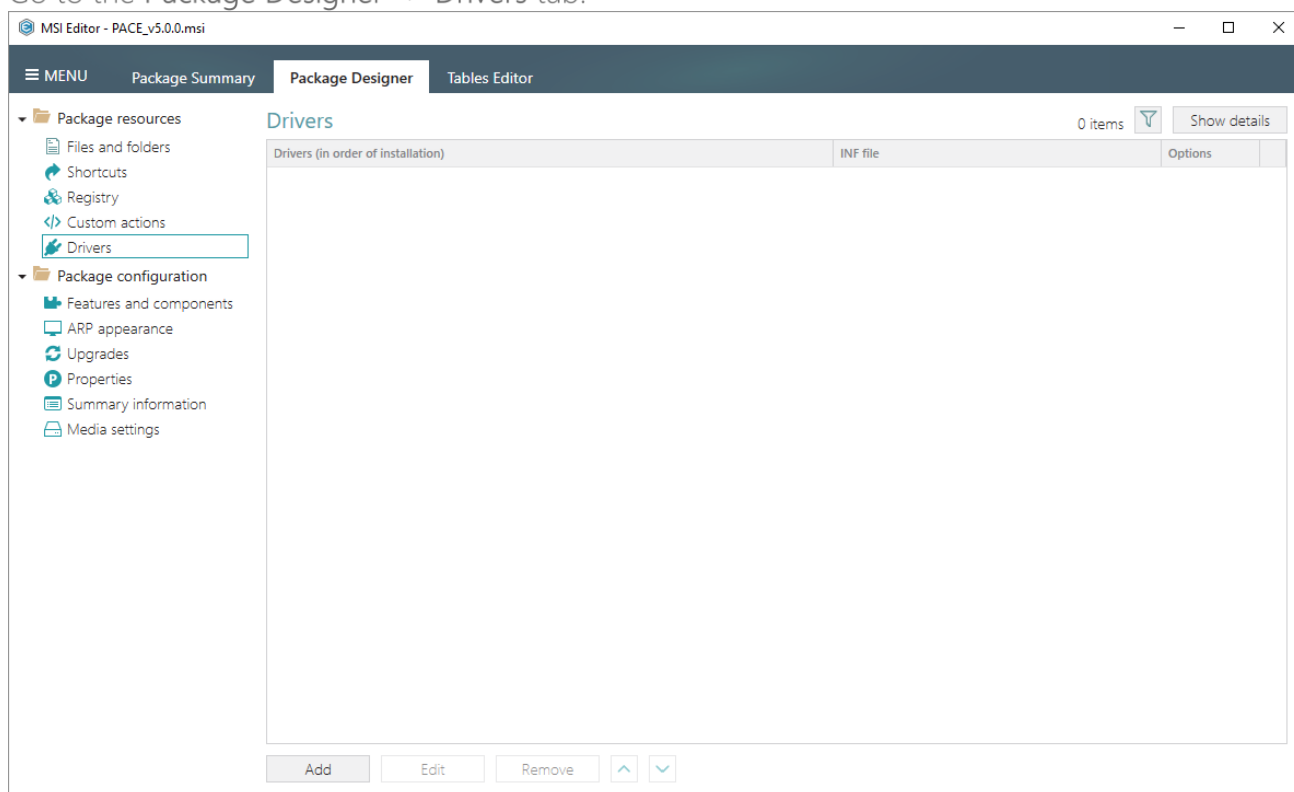
Choose a scenario that better suits your needs:

- **Add Driver**, described in section 3.7.8.1
Add a new device driver with the help of Driver Install Frameworks (DIFx) tools, a standard solution recommended by Microsoft.
- **Edit Driver**, described in section 3.7.8.2
Edit installation options, conditions and target architecture of the existing device driver.

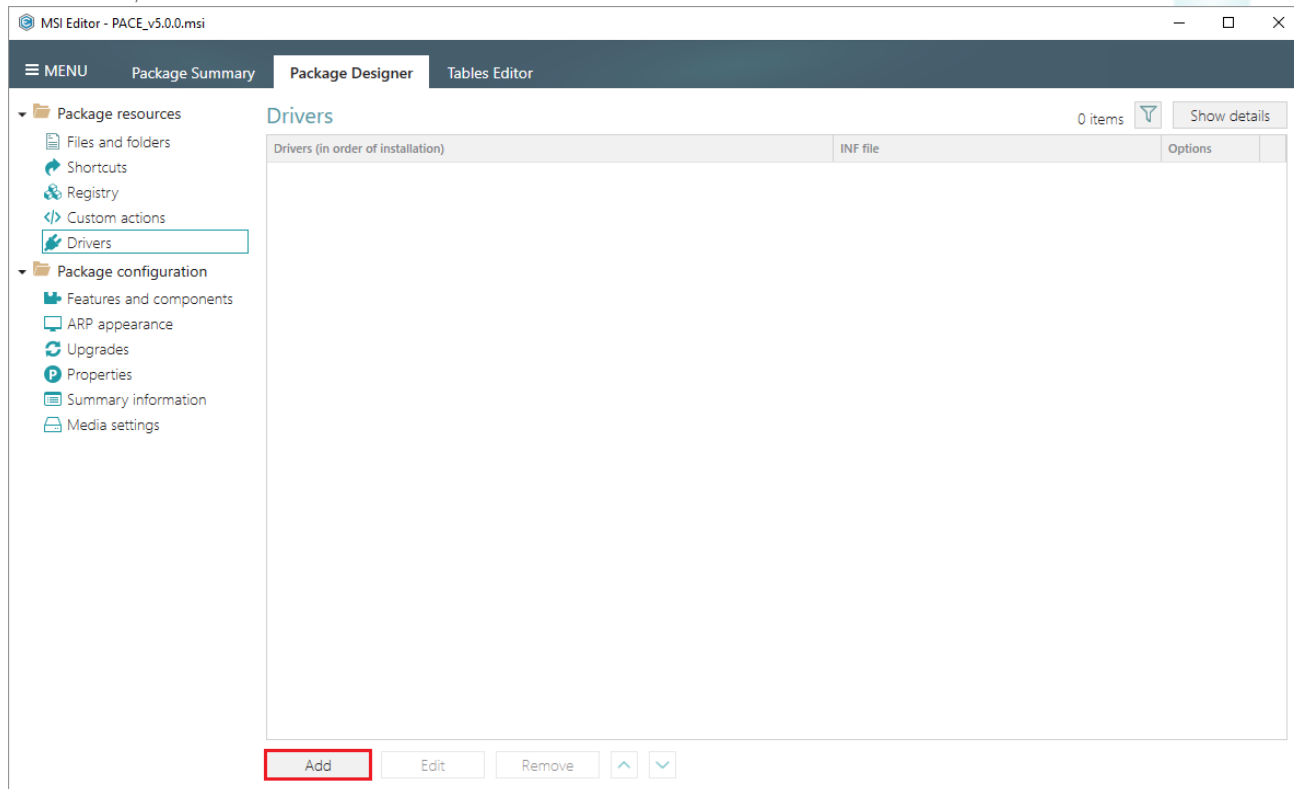
3.7.8.1 Add Driver

Add a new device driver with the help of Driver Install Frameworks (DIFx) tools, a standard solution recommended by Microsoft.

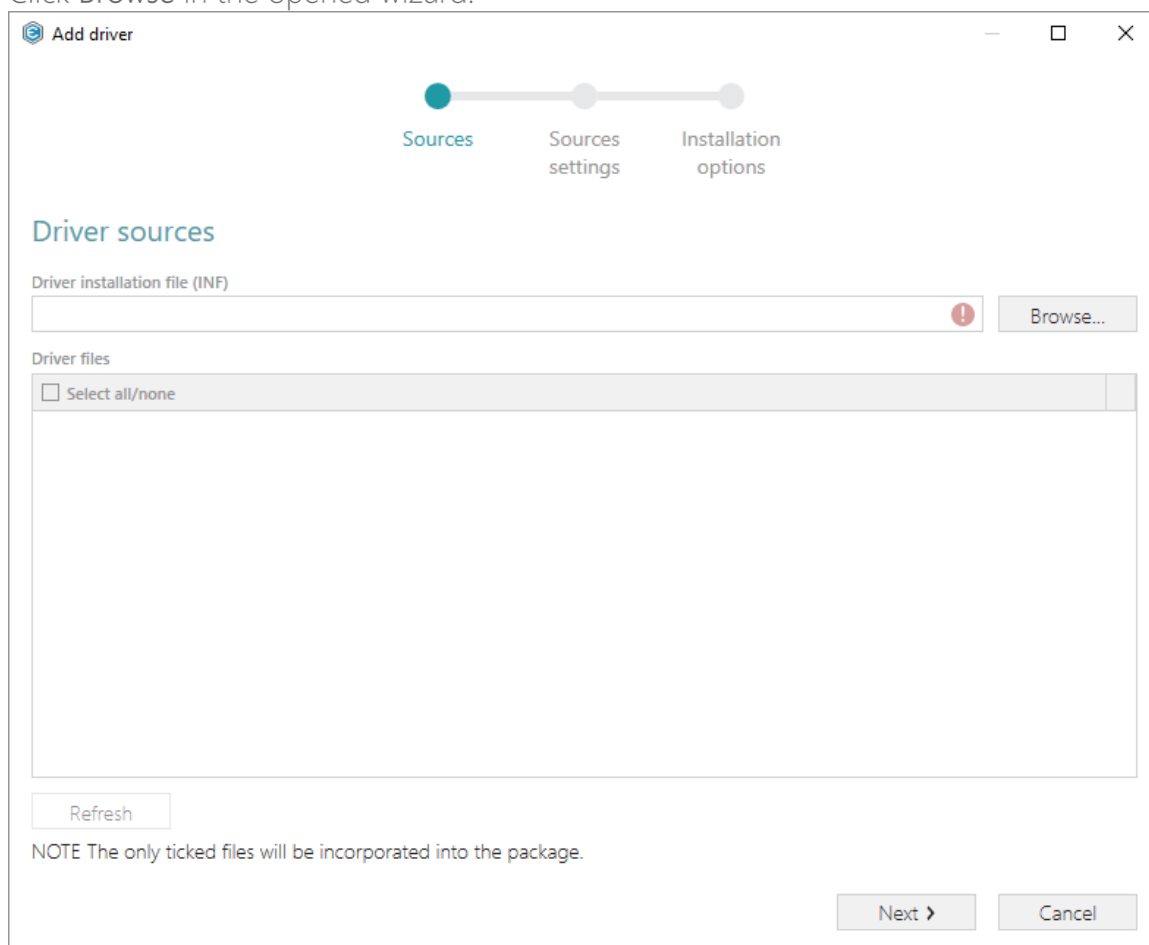
- Go to the Package Designer -> Drivers tab.



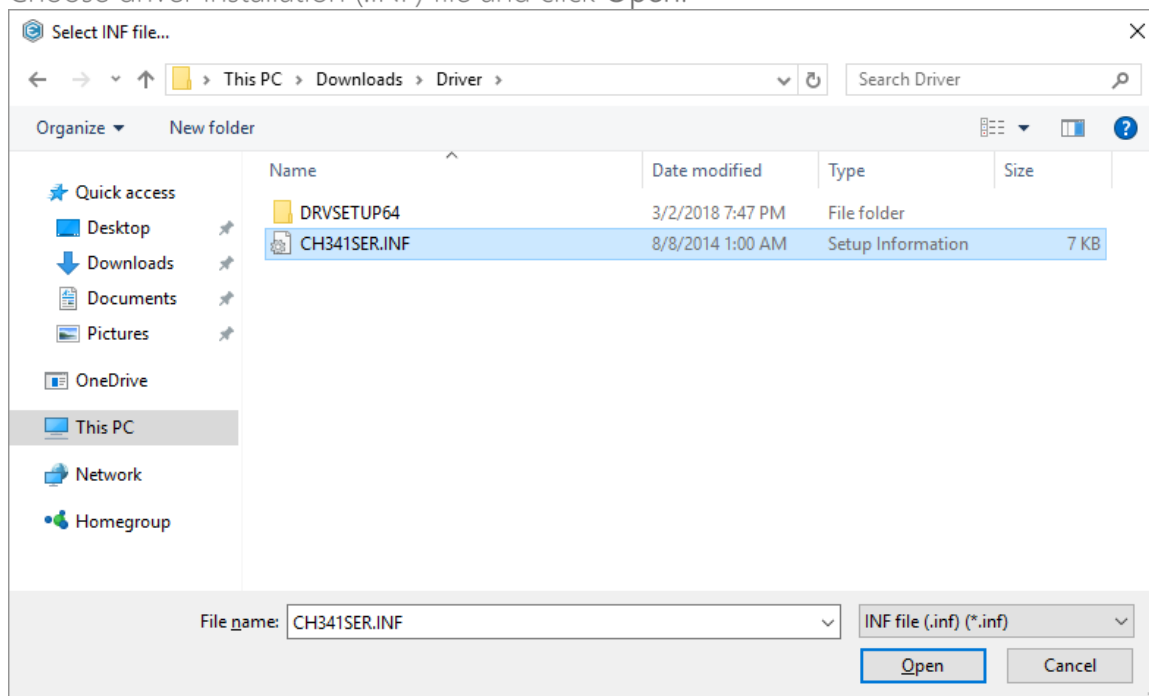
- Click Add, located in the toolbox.



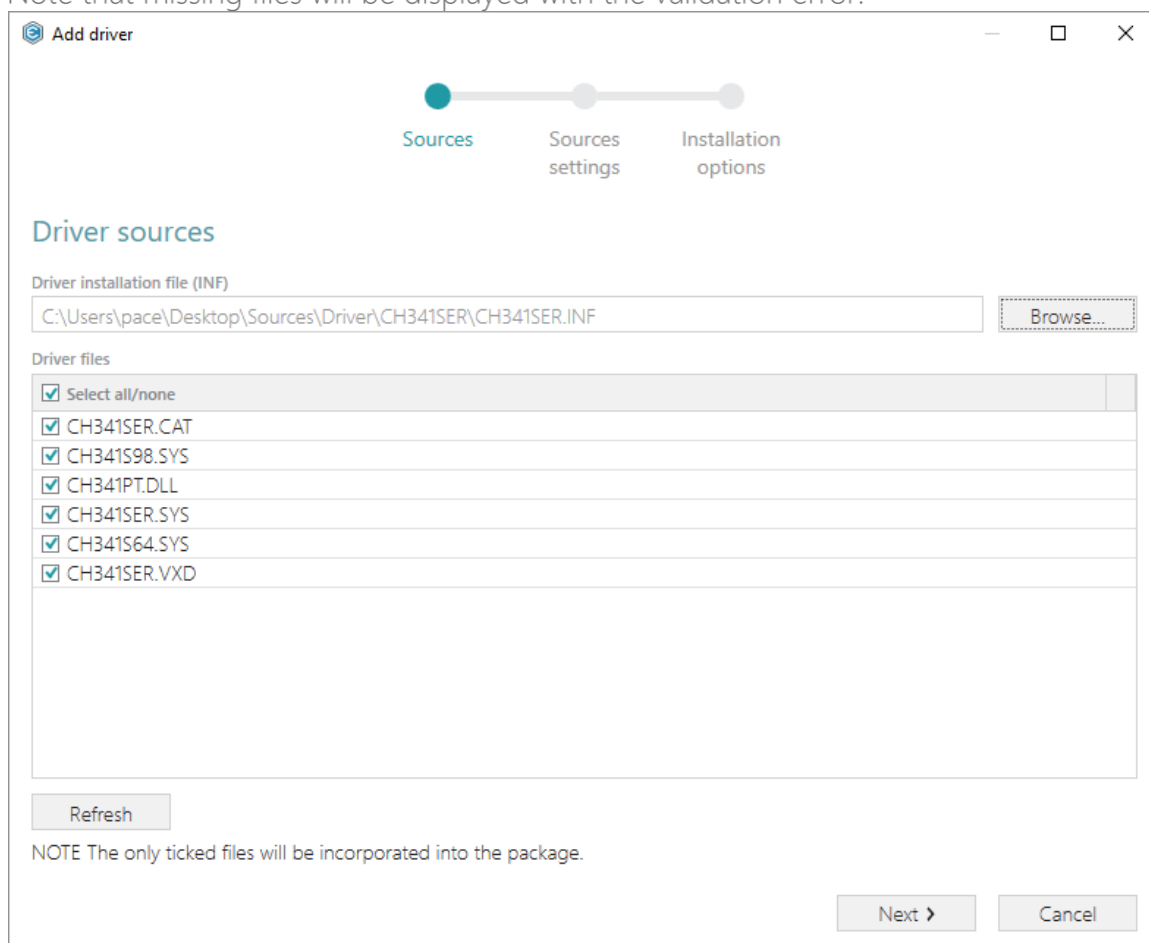
- Click Browse in the opened wizard.



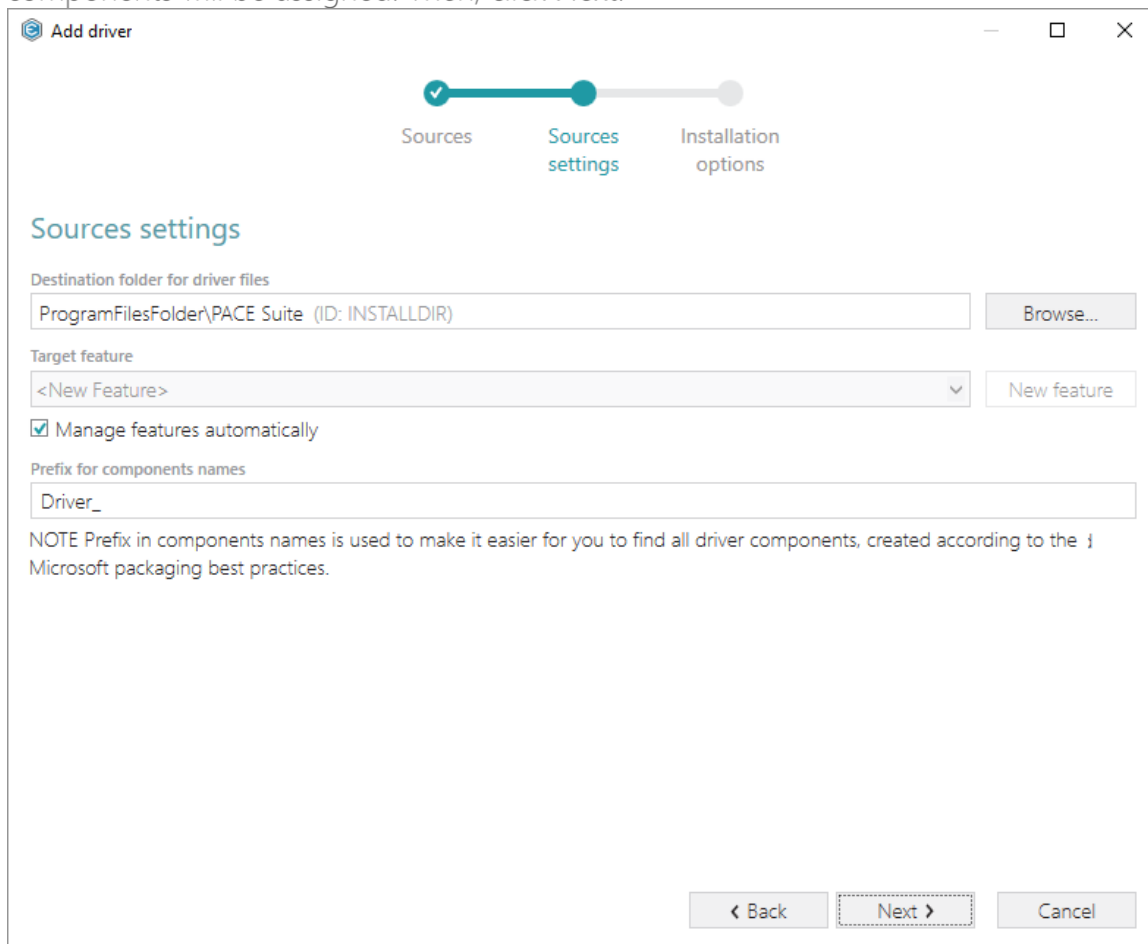
- Choose driver installation (.INF) file and click Open.



- Ensure that all files, required by driver, exist on the file system, and click Next. Note that missing files will be displayed with the validation error.



- Select a **Destination folder** for the driver files (the wizard additionally creates a subfolder in the selected folder). Also, you can manually specify a **Target feature**, to which the created driver components will be assigned. Then, click **Next**.



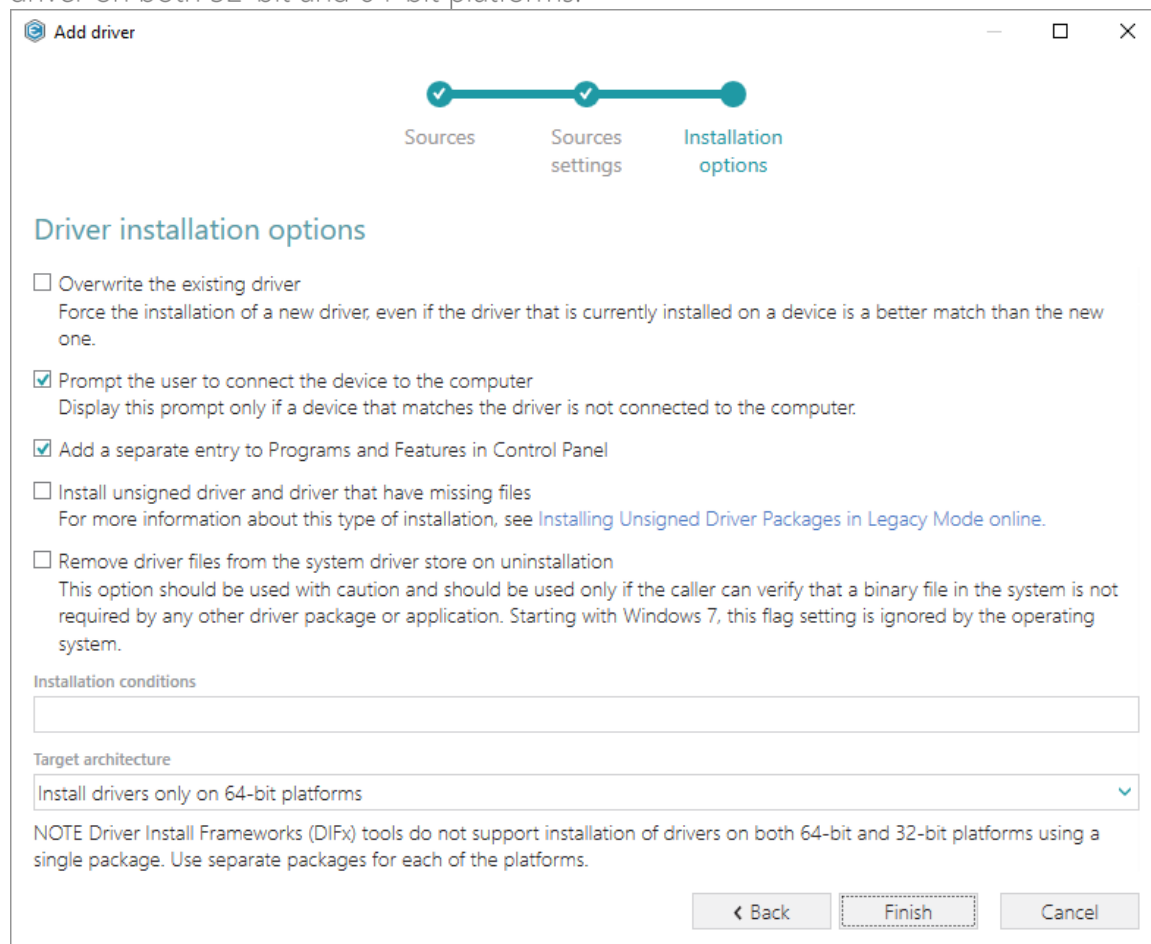
The screenshot shows the 'Add driver' wizard window. At the top, there is a progress bar with three steps: 'Sources' (marked with a checkmark), 'Sources settings' (the current step), and 'Installation options'. Below the progress bar, the title 'Sources settings' is displayed. The main area contains the following fields and controls:

- Destination folder for driver files:** A text box containing 'ProgramFilesFolder\PACE Suite (ID: INSTALLDIR)' and a 'Browse...' button to its right.
- Target feature:** A dropdown menu showing '<New Feature>' and a 'New feature' button to its right.
- Manage features automatically:** A checkbox that is checked.
- Prefix for components names:** A text box containing 'Driver_'.

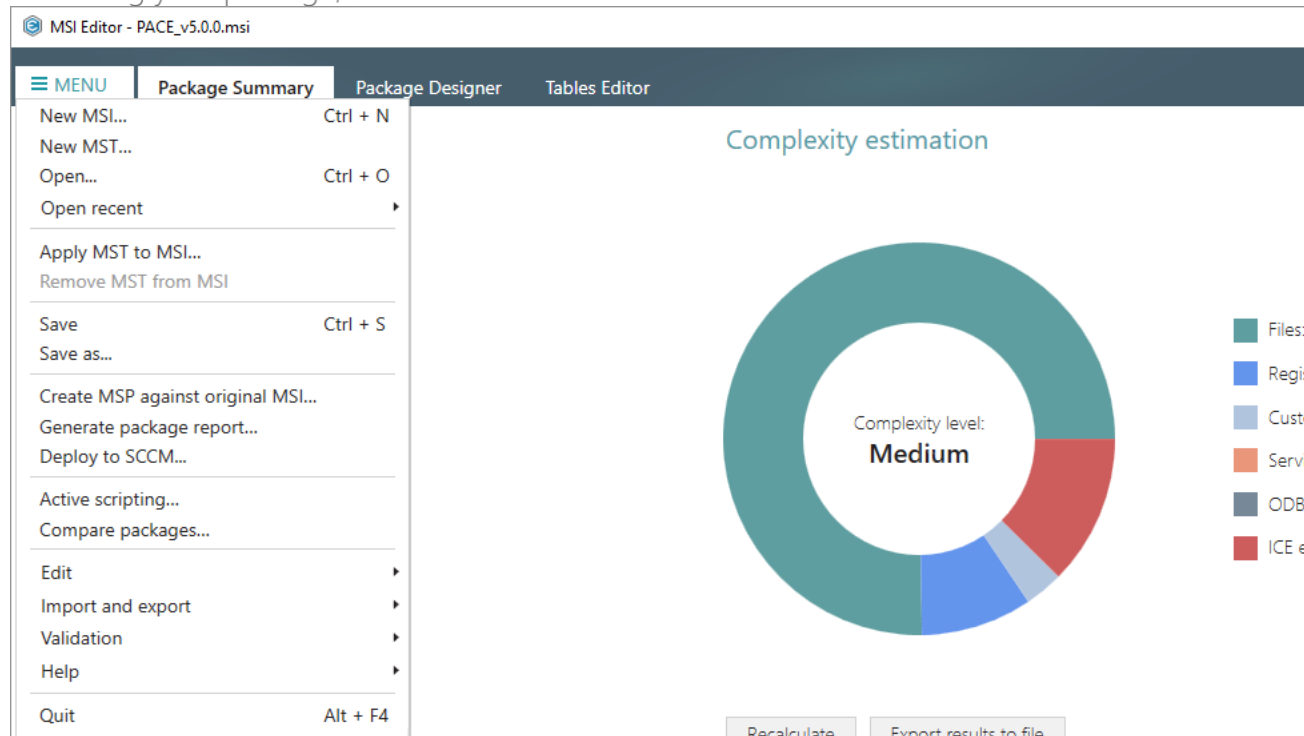
At the bottom of the window, there are three buttons: '< Back', 'Next >', and 'Cancel'. A note at the bottom states: 'NOTE Prefix in components names is used to make it easier for you to find all driver components, created according to the Microsoft packaging best practices.'

- At the last step, you can select **driver installation options**, used by Driver Install Frameworks (DIFx) tool, specify **installation conditions**, which will be used for the main driver component (see [Conditional Statement Syntax](#)), and select a **target architecture**, which defines whether a 32-bit or 64-bit DIFx tool will be used. Click **Finish** to add the driver.
NOTE One package can not contain both 32-bit and 64-bit DIFx tool, and as a result, one package can not install driver on both platforms. Use separate packages if you need to install

driver on both 32-bit and 64-bit platforms.



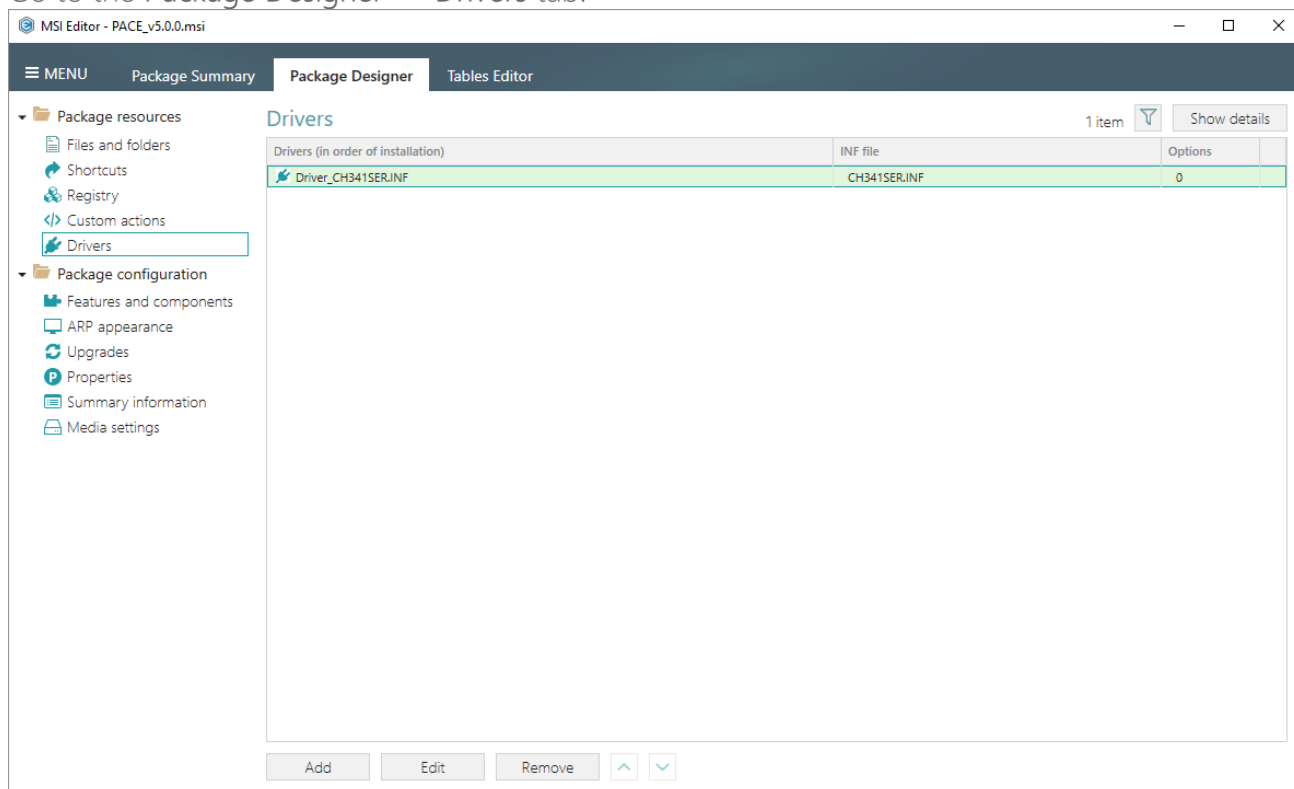
- For saving your package, select Save from the MENU.



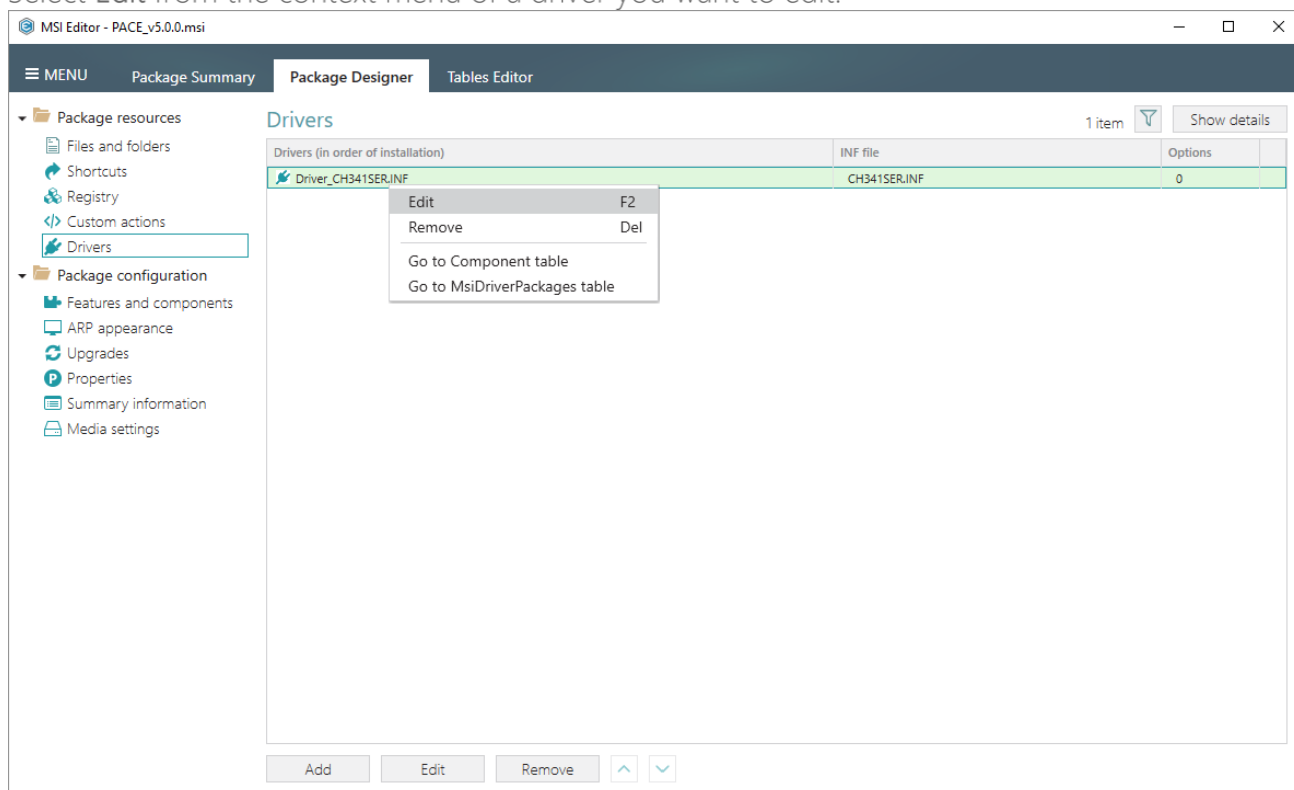
3.7.8.2 Edit Driver

Edit installation options, conditions and target architecture of the existing device driver.

- Go to the Package Designer -> Drivers tab.

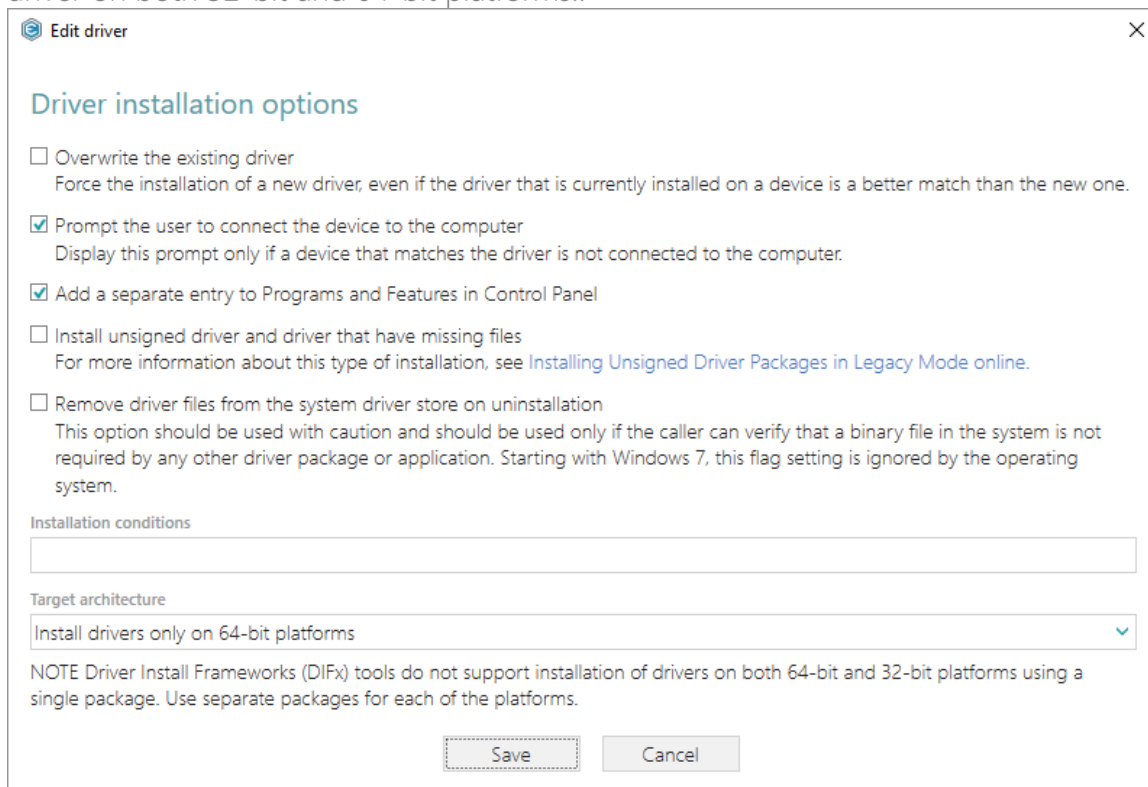


- Select Edit from the context menu of a driver you want to edit.

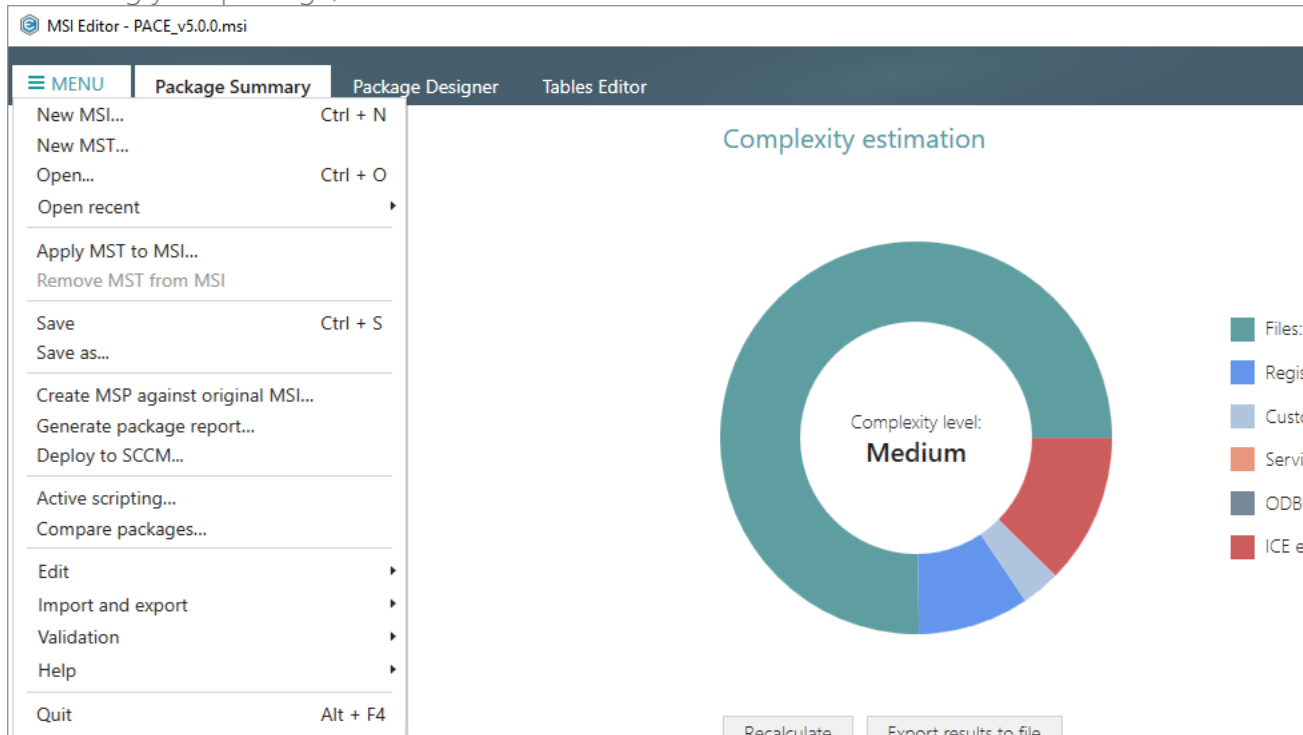


- In the opened window you can change driver installation options, used by Driver Install Frameworks (DIFx) tool, specify installation conditions, which will be used for the main driver component (see [Conditional Statement Syntax](#)), and change a target architecture, which defines whether a 32-bit or 64-bit DIFx tool will be used. Click Save to update the driver settings.

NOTE One package can not contain both 32-bit and 64-bit DIFx tool, and as a result, one package can not install driver on both platforms. Use separate packages if you need to install driver on both 32-bit and 64-bit platforms..



- For saving your package, select Save from the MENU.



3.7.9 Features and Components

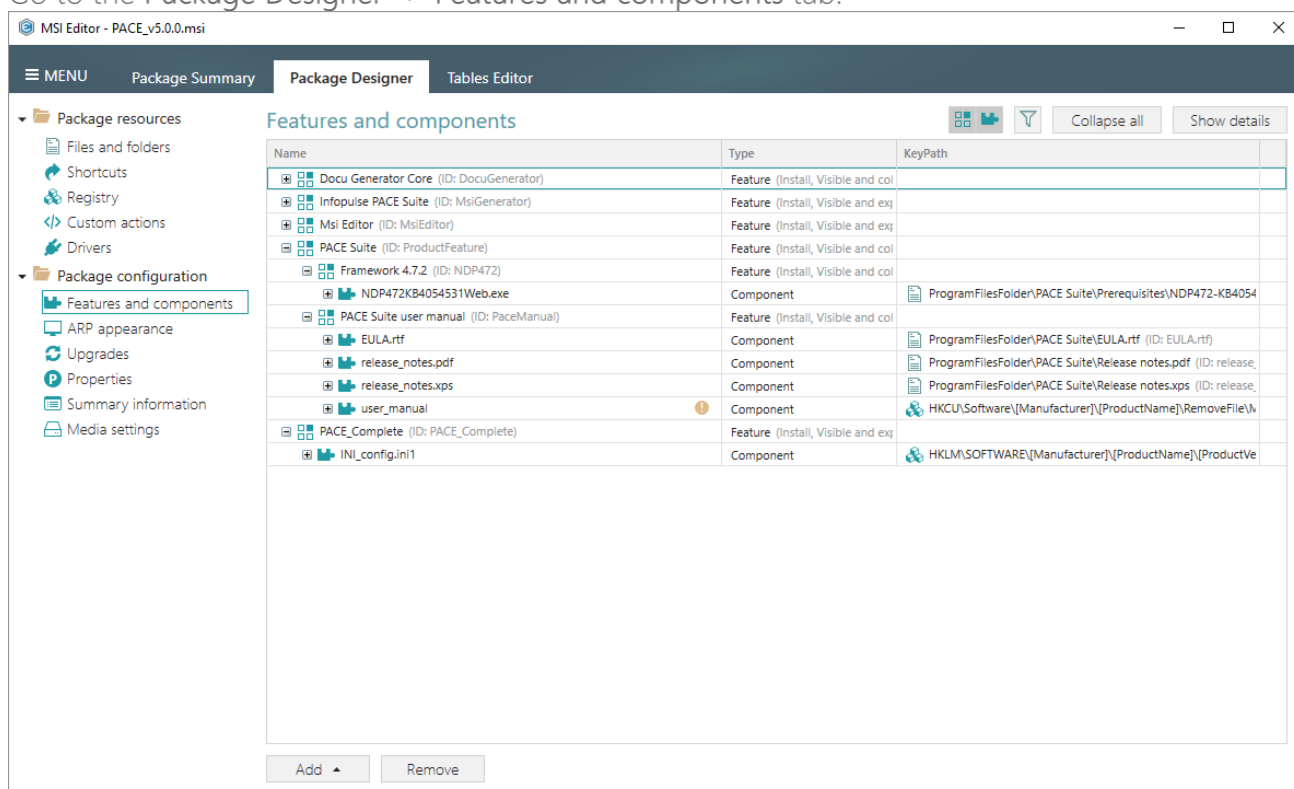
Choose a scenario that better suits your needs:

- **Add Feature**, described in section 3.7.9.1
Add a new root feature or subfeature to the package.
- **Add Component**, described in section 3.7.9.2
Add a new component to one or many features and set the component properties.
- **Move Feature, Component**, described in section 3.7.9.3
Move a feature or a component to another feature.
- **Edit Feature Properties**, described in section 3.7.9.4
Edit feature properties such as ID, title, folder, installation state, type, display options and advertisement.
- **Edit Component Properties**, described in section 3.7.9.5
Edit component properties such as name, GUID, conditions, key path, attributes and relationship with features.
- **Detect Empty Components**, described in section 3.7.9.6
Find empty components with no linked resources in order to remove them.
- **Review Component Resources**, described in section 3.7.9.7
Review what resources (files, registry, shortcuts, etc.) are linked with the component.

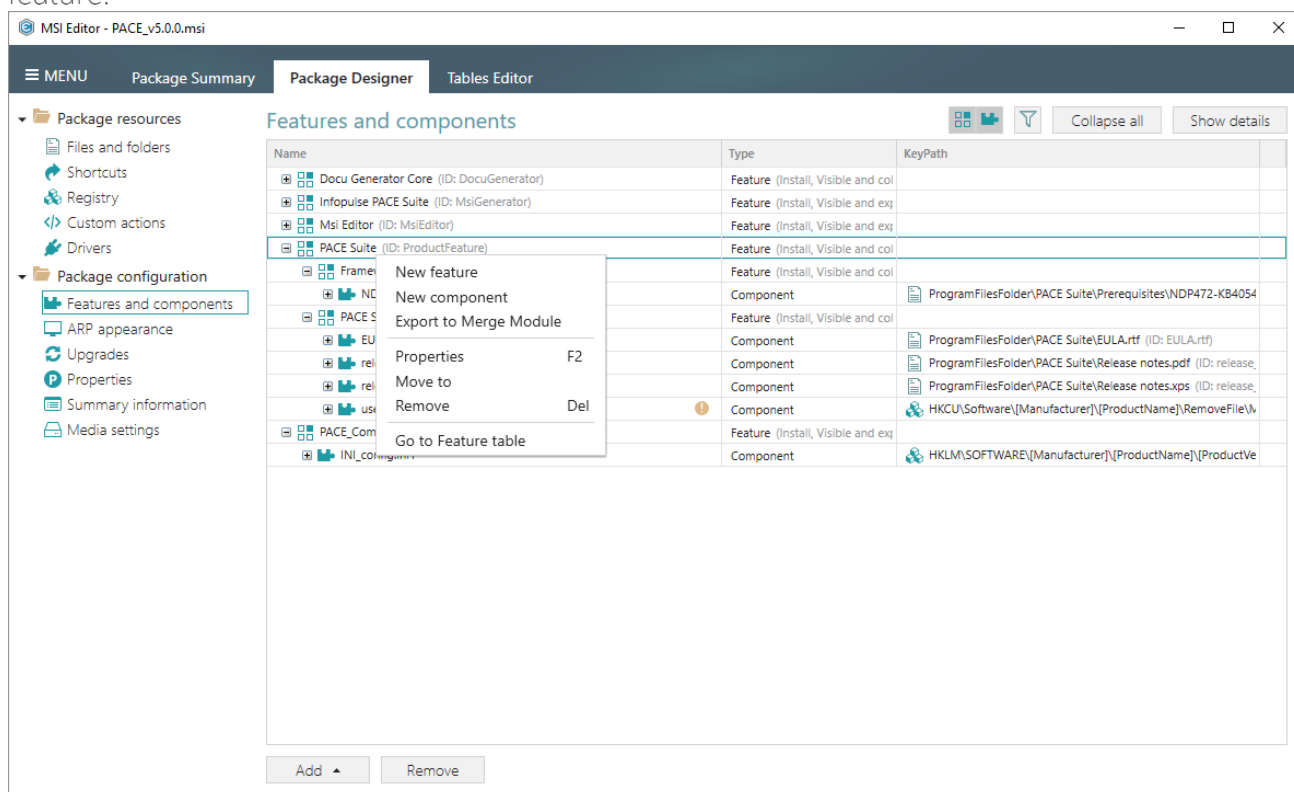
3.7.9.1 Add Feature

Add a new root feature or subfeature to the package.

- Go to the Package Designer -> Features and components tab.



- Select **New feature** from the context menu of a feature, where you want to create a new feature. For creating a root feature, use any feature and later you can clean-up its parent feature.



- Using the **Properties** window, update a feature title, identifier and select the necessary behavior and appearance settings. For creating a root feature, click on the **Make this feature**

root link, located below the Parent feature field. Afterwards, click Save.

The 'Properties' dialog box for the MSI table 'Feature' contains the following fields and options:

- Title:** Newfeature
- Identifier:** Newfeature
- Parent feature:** PACE Suite (ID: ProductFeature) with a 'Browse...' button.
- Make this feature root:** (link)
- Description:** (empty text box)
- Destination folder:** (empty text box) with a 'Browse...' button.
- Reset:** (button)
- Behaviour and appearance section:**
 - Initial Installation state:** Install (dropdown)
 - Installation type:** Install feature components locally (dropdown)
 - Display option:** Visible and collapsed (dropdown)
 - Advertise:** Allow advertise (dropdown)
 - ☐ Disallow user to change feature state to Absent
- Buttons:** Save, Cancel

- For saving your package, select Save from the MENU.

The MSI Editor interface shows the 'MENU' dropdown open, listing various actions. The 'Complexity estimation' section displays a donut chart indicating a 'Medium' complexity level, broken down by component type.

Complexity estimation

Complexity level: **Medium**

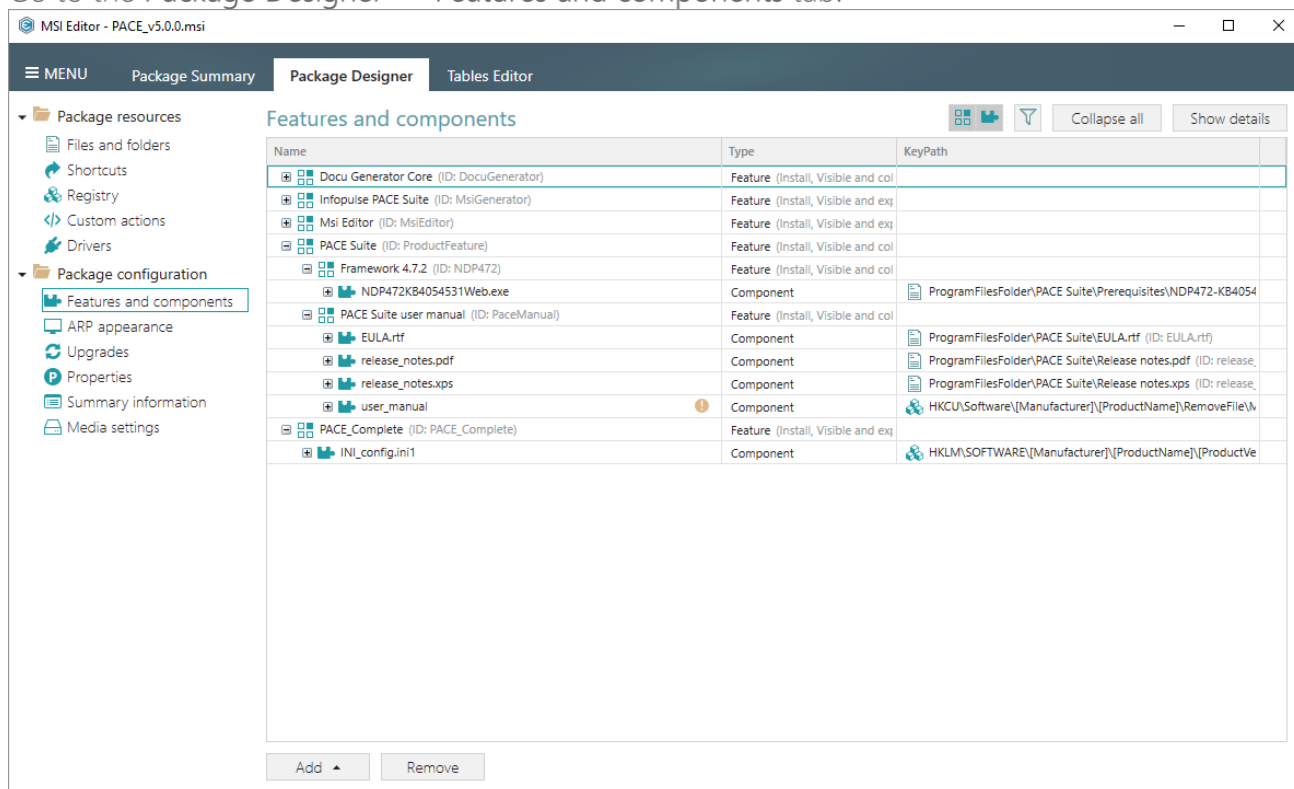
Component Type	Count
Files	1
Registry	1
CustData	1
Service	1
ODBC	1
ICE	1

Buttons: Recalculate, Export results to file

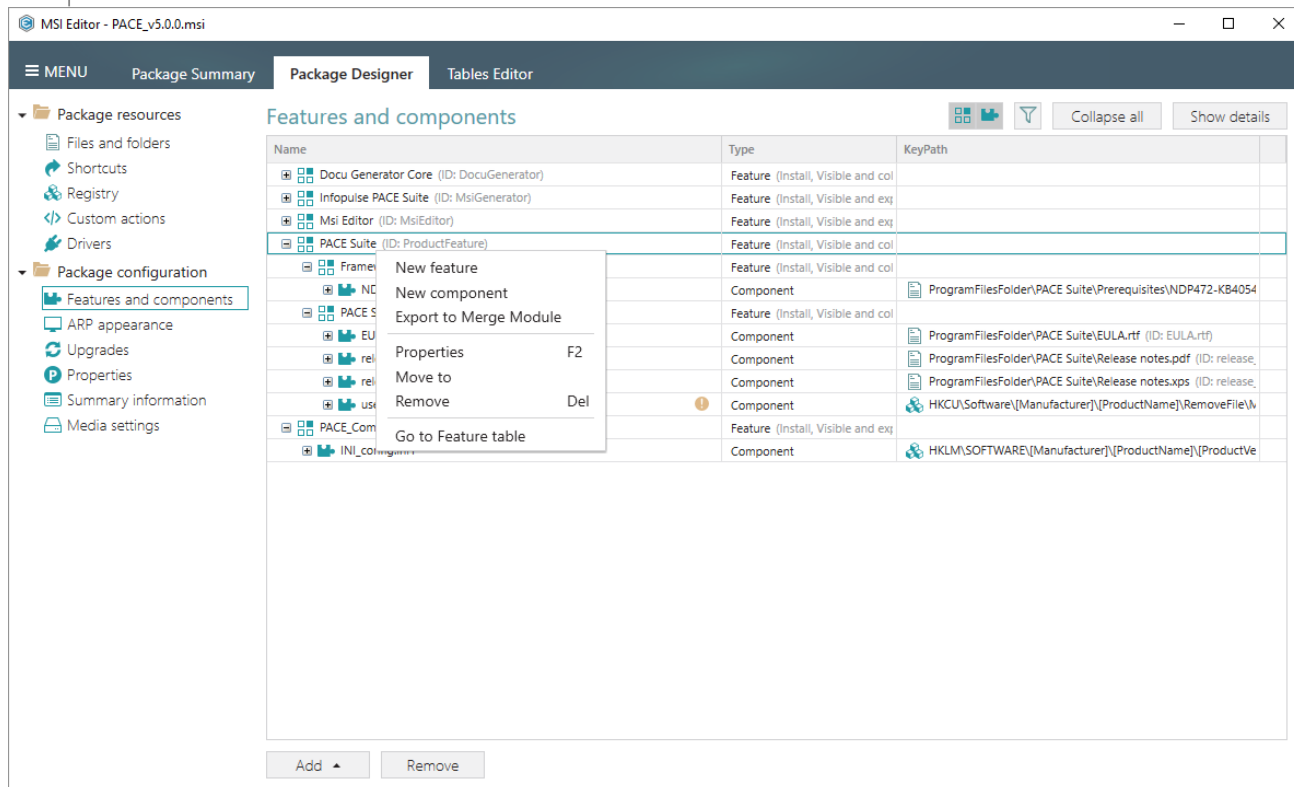
3.7.9.2 Add Component

Add a new component to one or many features and set the component properties.

- Go to the Package Designer -> Features and components tab.



- Select New component from the context menu a feature, where you want to create a new component.



- Using the **Properties** window, update a component name, GUID and select the necessary installation conditions, target folder. Note that to select a key path from files or registry, this component should contain these resources. Switch to the **Attributes** tab to manage component attributes and define new or change existing relationships between this component and features on the **Relationships** tab. Afterwards, click **Save**.

The screenshot shows the 'Properties' window for an MSI table named 'Component'. The 'General' tab is selected. The 'Name' field contains 'NewComponent'. The 'Component ID (GUID)' field contains '{DB0FDAB0-CCE4-4C97-9B21-19638EF0E366}' with a 'New' button next to it. The 'Conditions' field is empty. Below this is a section titled 'Folder and KeyPath'. The 'Files destination folder' field contains 'TARGETDIR (ID: TARGETDIR)' with a 'Browse...' button. A note states: 'NOTE Changing this folder leads to changing the Target folder for all the component files.' The 'KeyPath type' dropdown is set to 'Folder ('Files destination folder' is used as the KeyPath)'. The 'KeyPath' field contains 'TARGETDIR (ID: TARGETDIR)' with a 'Browse...' button. At the bottom are 'Save' and 'Cancel' buttons.

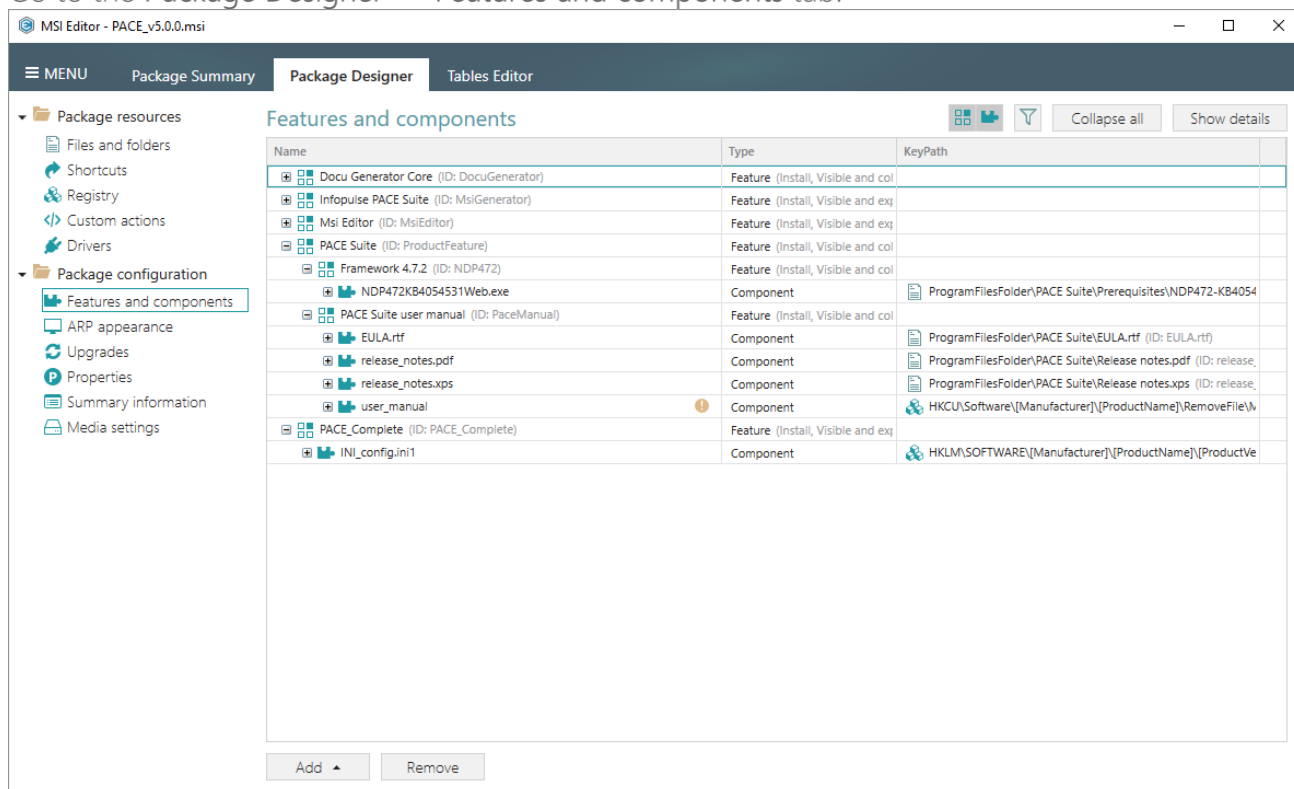
- For saving your package, select **Save** from the **MENU**.

The screenshot shows the MSI Editor interface for 'PACE_v5.0.0.msi'. The 'MENU' is open, showing options like 'New MSI...', 'New MST...', 'Open...', 'Open recent', 'Apply MST to MSI...', 'Remove MST from MSI', 'Save', 'Save as...', 'Create MSP against original MSI...', 'Generate package report...', 'Deploy to SCCM...', 'Active scripting...', 'Compare packages...', 'Edit', 'Import and export', 'Validation', 'Help', and 'Quit'. The 'Package Summary' tab is active, displaying a 'Complexity estimation' donut chart. The chart shows a 'Complexity level: Medium'. The legend indicates the following components: Files (dark teal), Regis (blue), Custr (light blue), Servi (orange), ODB (dark grey), and ICE (red). At the bottom are 'Recalculate' and 'Export results to file' buttons.

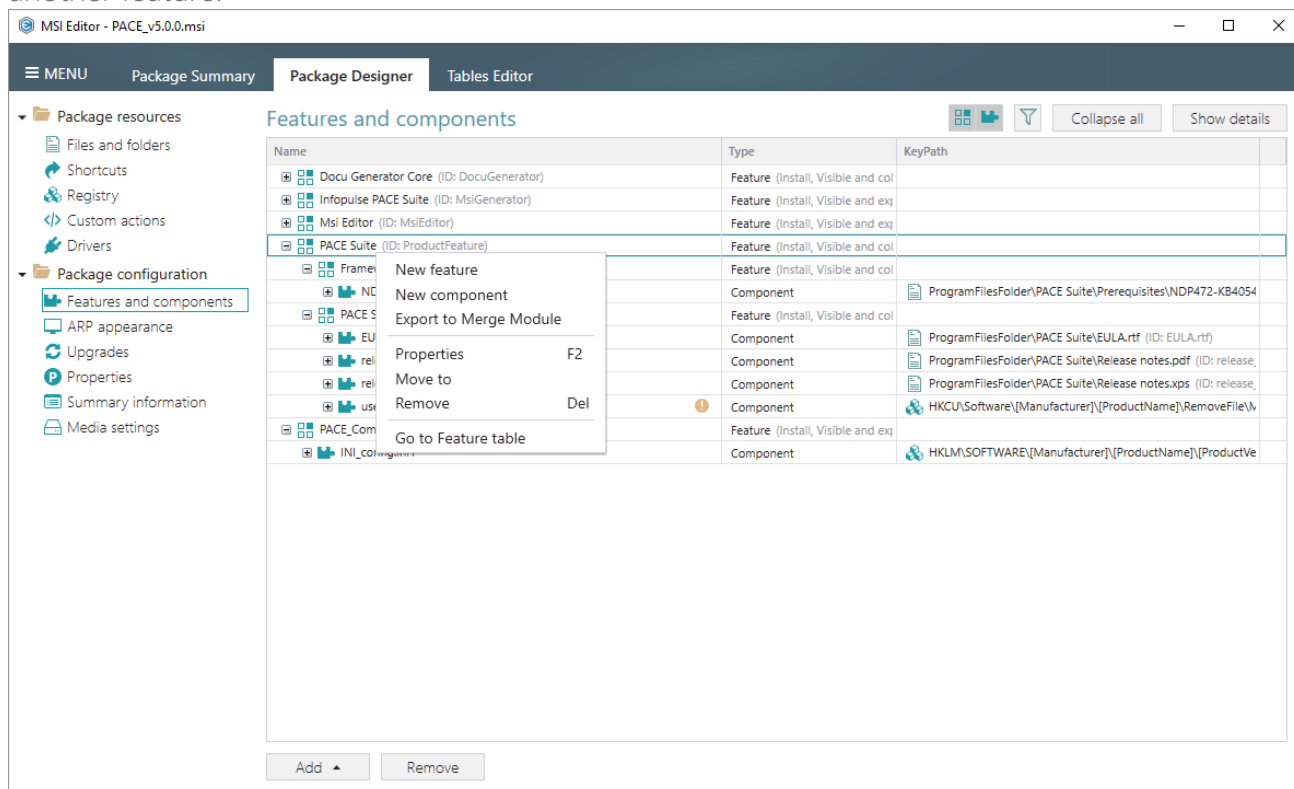
3.7.9.3 Move Feature, Component

Move a feature or a component to another feature.

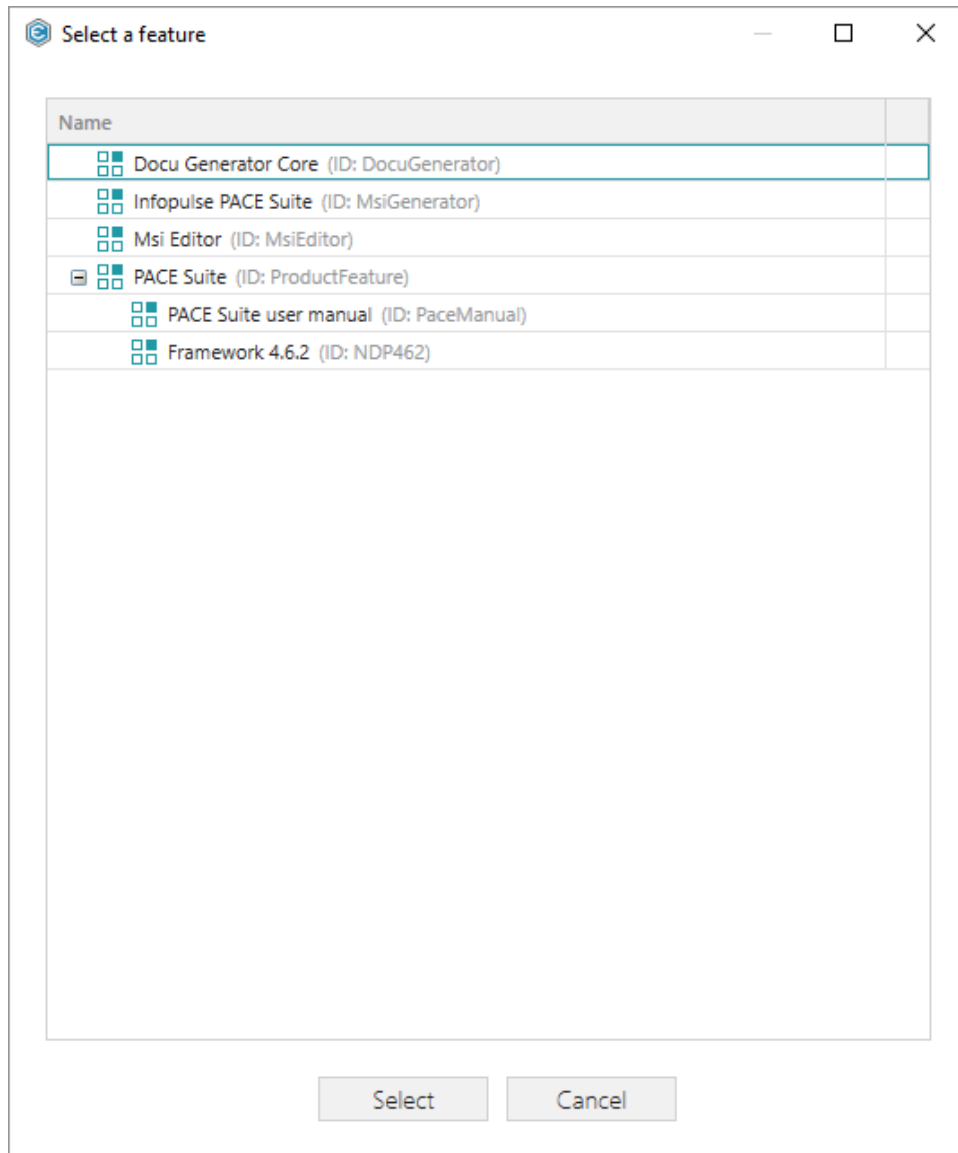
- Go to the Package Designer -> Features and components tab.



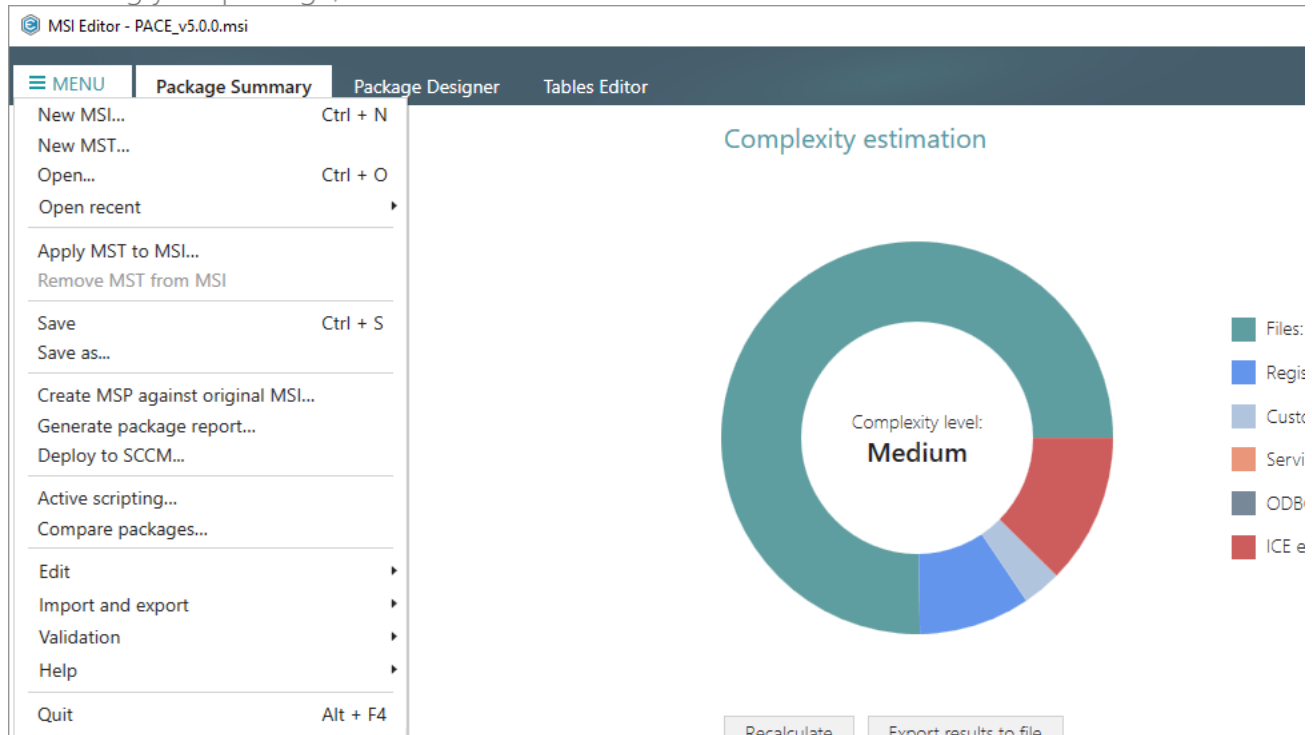
- Select Move to from the context menu of a feature or component, which you want to move to another feature.



- Choose a destination feature from the tree and click Select.



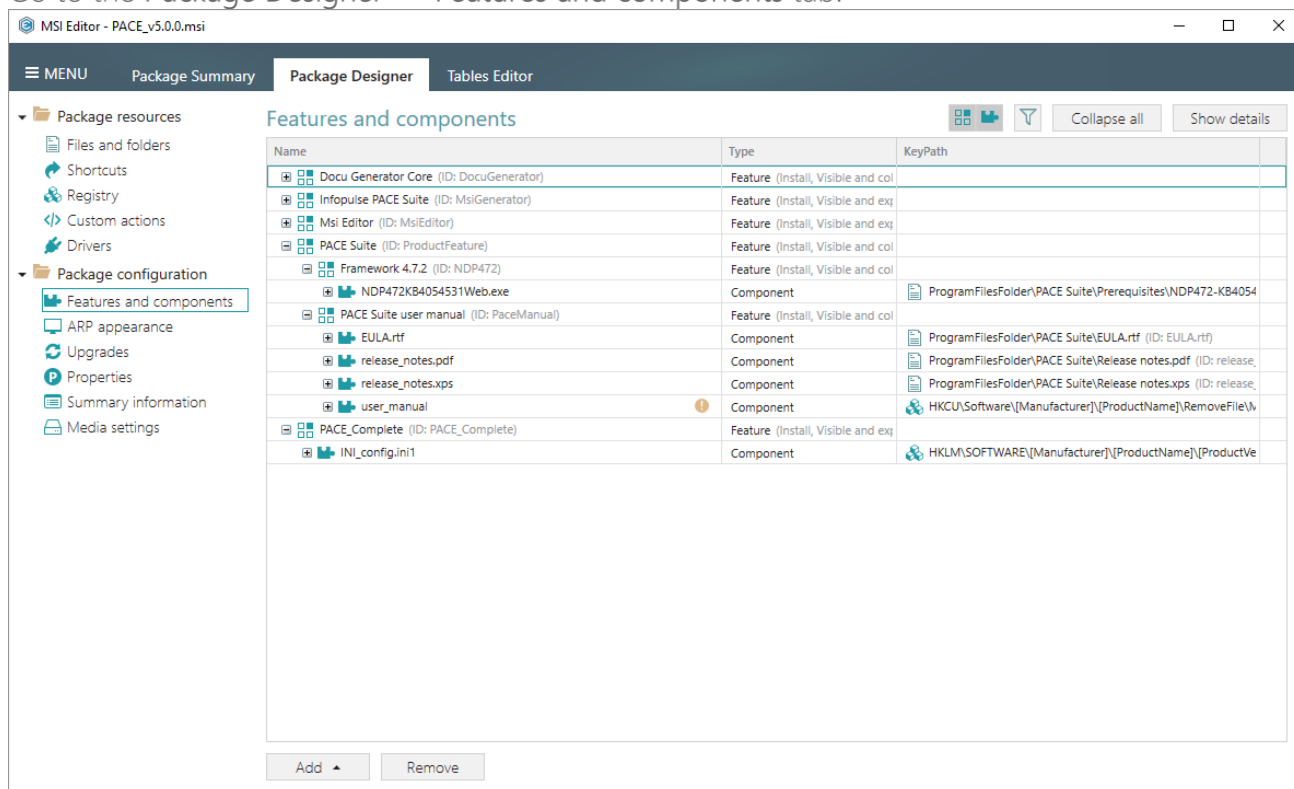
- For saving your package, select Save from the MENU.



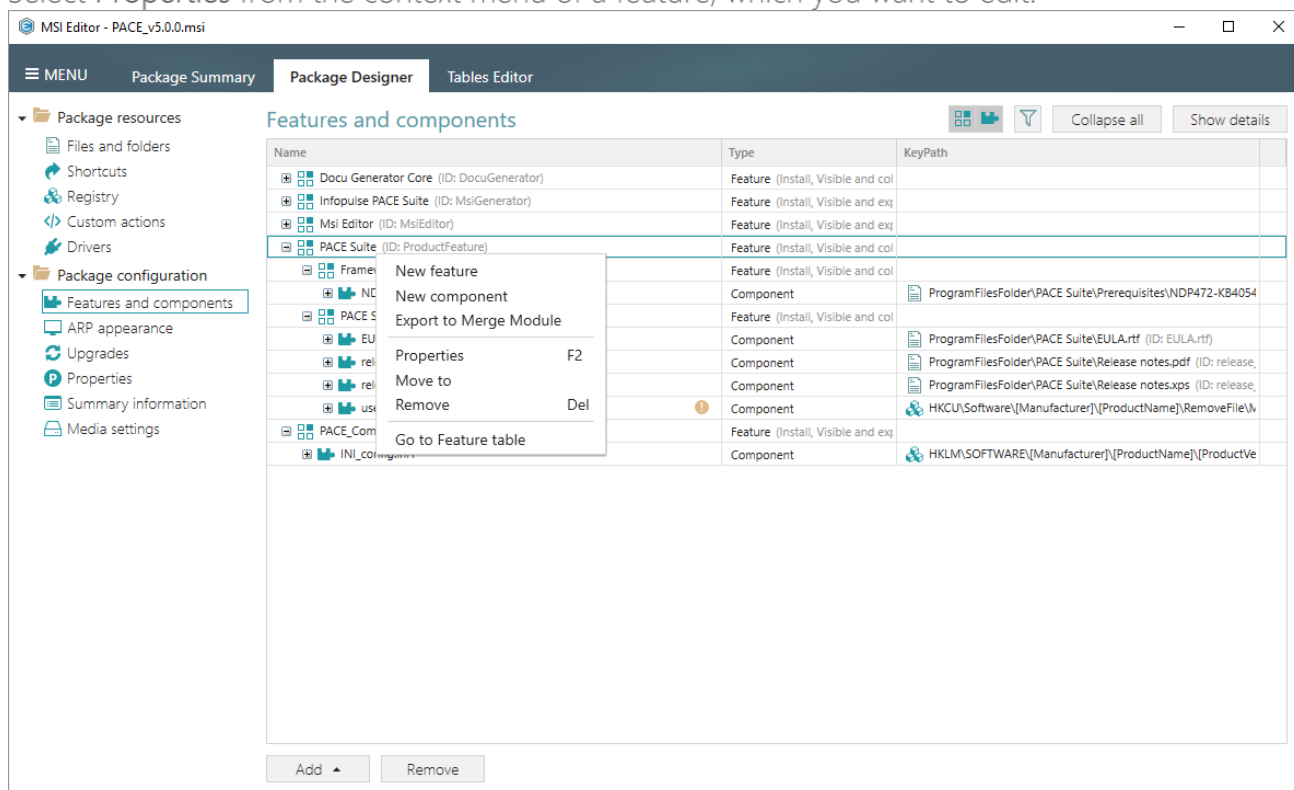
3.7.9.4 Edit Feature Properties

Edit feature properties such as ID, title, folder, installation state, type, display options and advertisement.

- Go to the Package Designer -> Features and components tab.

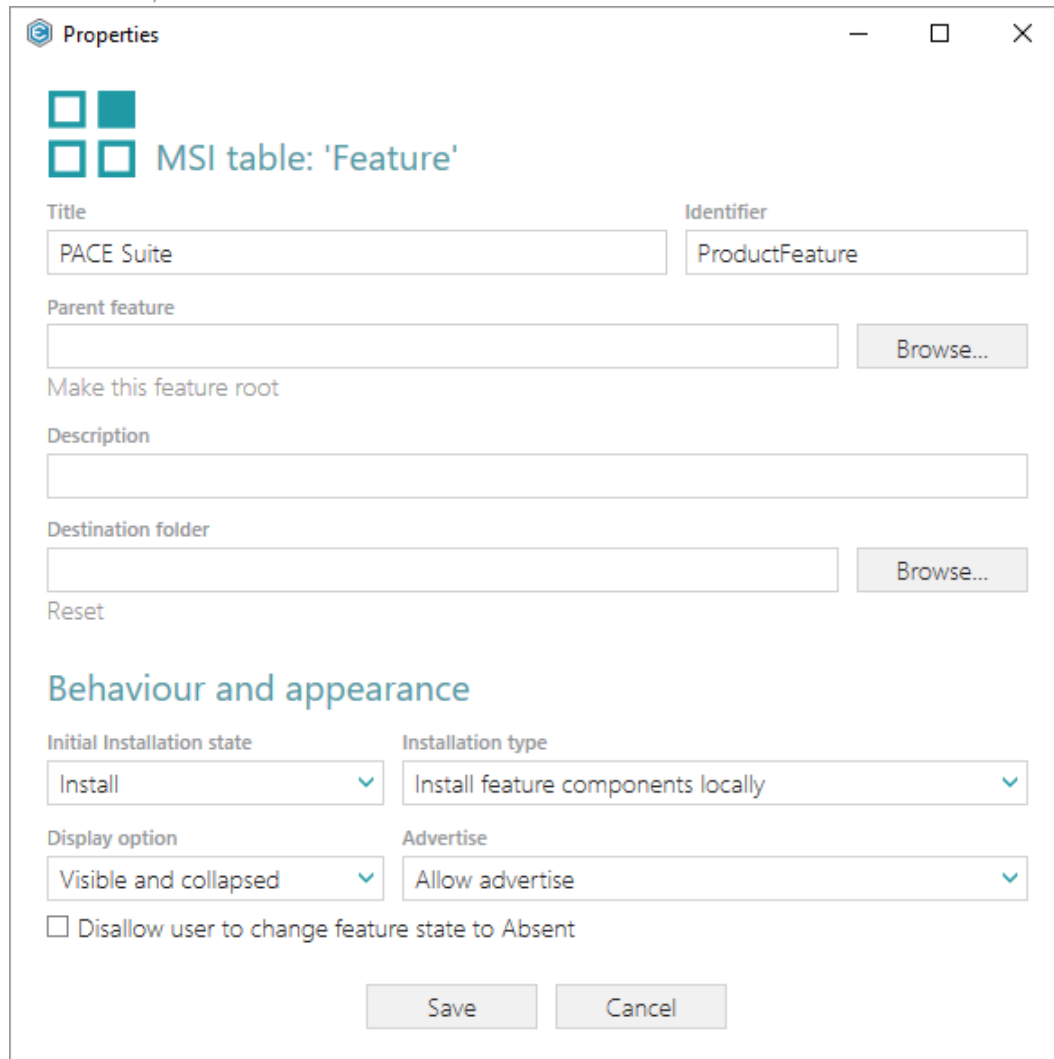


- Select Properties from the context menu of a feature, which you want to edit.



- Using the Properties window, update the necessary feature properties, such as a feature title, identifier, parent feature, installation state and type, display option and advertisement.

Afterwards, click Save.



Properties

MSI table: 'Feature'

Title: PACE Suite Identifier: ProductFeature

Parent feature: Browse...

Make this feature root: ☐

Description:

Destination folder: Browse...

Reset

Behaviour and appearance

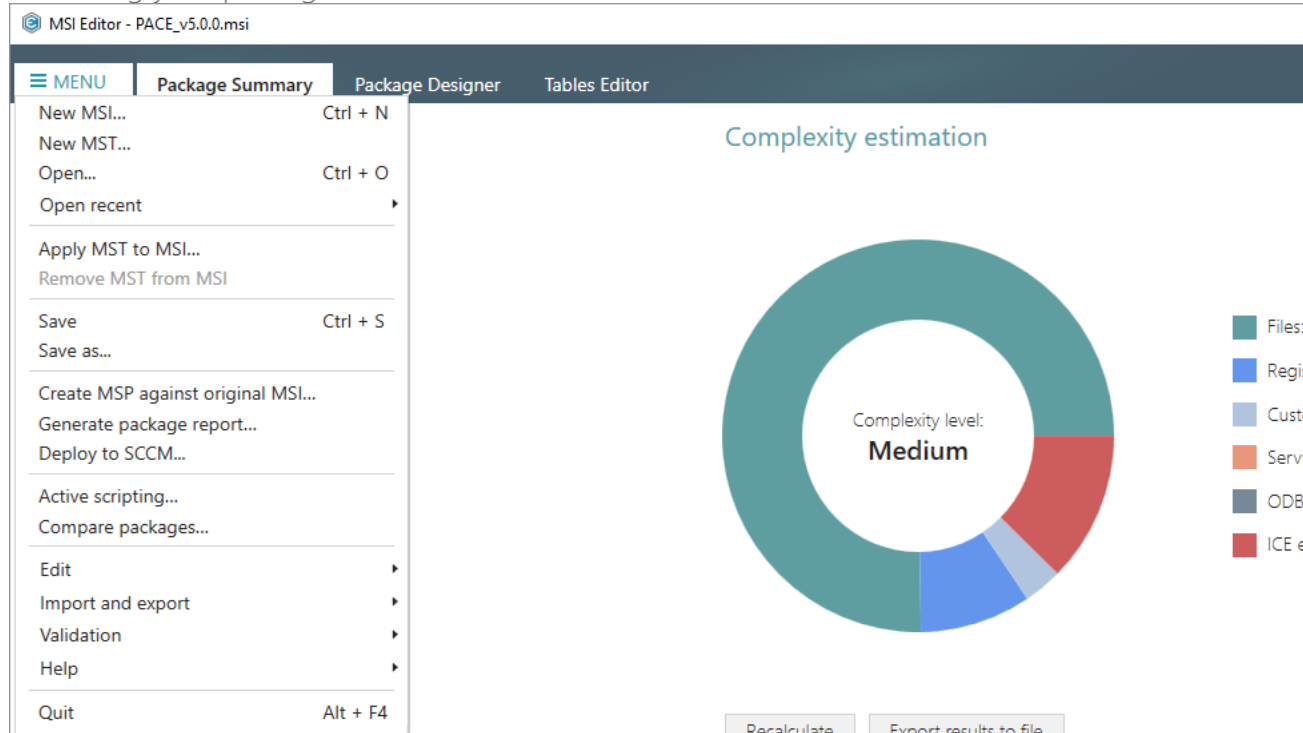
Initial Installation state: Install Installation type: Install feature components locally

Display option: Visible and collapsed Advertise: Allow advertise

☐ Disallow user to change feature state to Absent

Save Cancel

- For saving your package, select Save from the MENU.



MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer Tables Editor

- New MSI... Ctrl + N
- New MST...
- Open... Ctrl + O
- Open recent
- Apply MST to MSI...
- Remove MST from MSI
- Save Ctrl + S
- Save as...
- Create MSP against original MSI...
- Generate package report...
- Deploy to SCCM...
- Active scripting...
- Compare packages...
- Edit
- Import and export
- Validation
- Help
- Quit Alt + F4

Complexity estimation

Complexity level: **Medium**

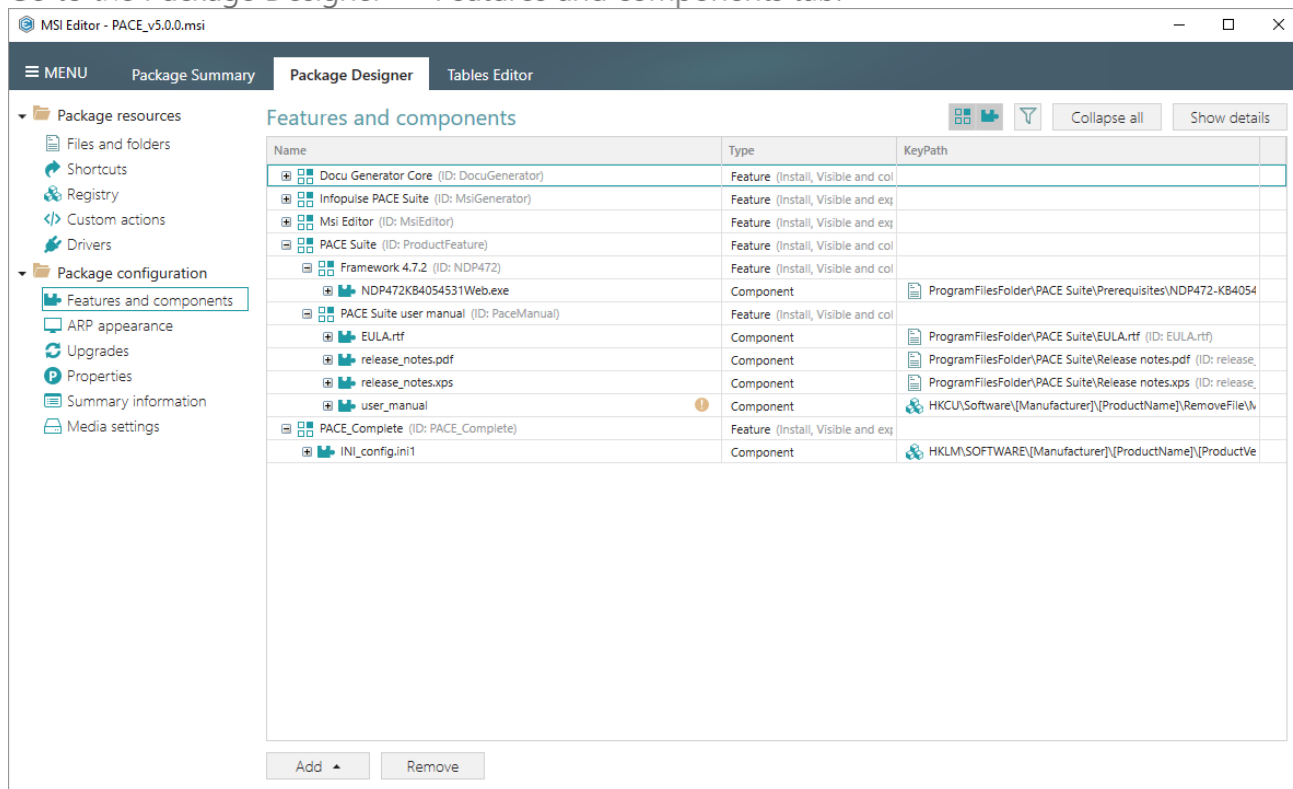
Files: (Dark Green)
 Regis: (Blue)
 Custr: (Light Blue)
 Servi: (Orange)
 ODB: (Dark Blue)
 ICE e: (Red)

Recalculate Export results to file

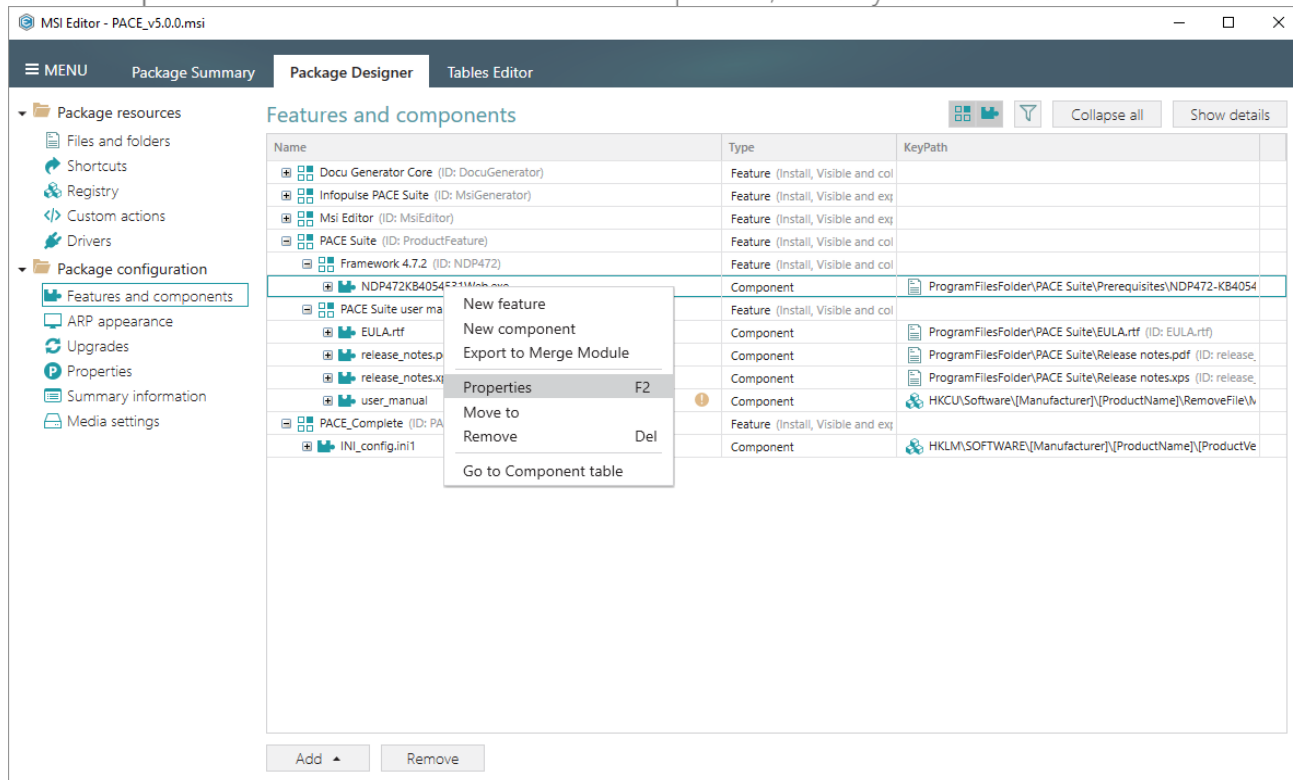
3.7.9.5 Edit Component Properties

Edit component properties such as name, GUID, conditions, key path, attributes and relationship with features.

- Go to the Package Designer -> Features and components tab.




- Select Properties from the context menu of a component, which you want to edit.



- On the General tab of the Properties window, update the necessary component properties, such as a name, GUID, installation conditions, target folder and key path.

Properties

General Attributes Relationships

 **MSI table: 'Component'**

Name


Component ID (GUID)

Conditions

Folder and KeyPath

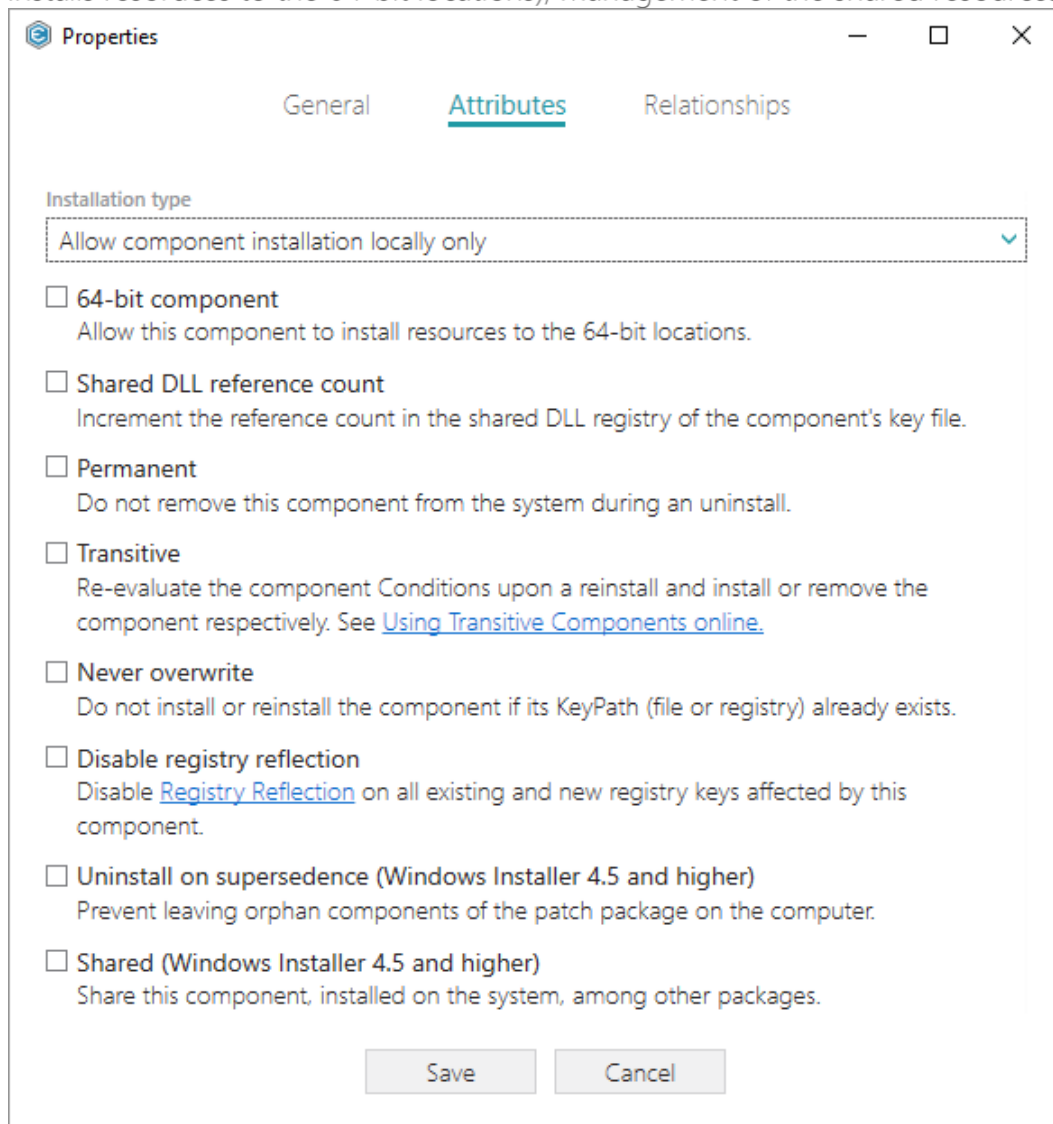
Files destination folder

NOTE Changing this folder leads to changing the **Target folder** for all the component files.

KeyPath type
 

KeyPath

- On the **Attributes** tab of the **Properties** window you can manage component attributes such as component installation type, bitness (set the **64-bit component** attribute if your component installs resources to the 64-bit locations), management of the shared resources and so on.

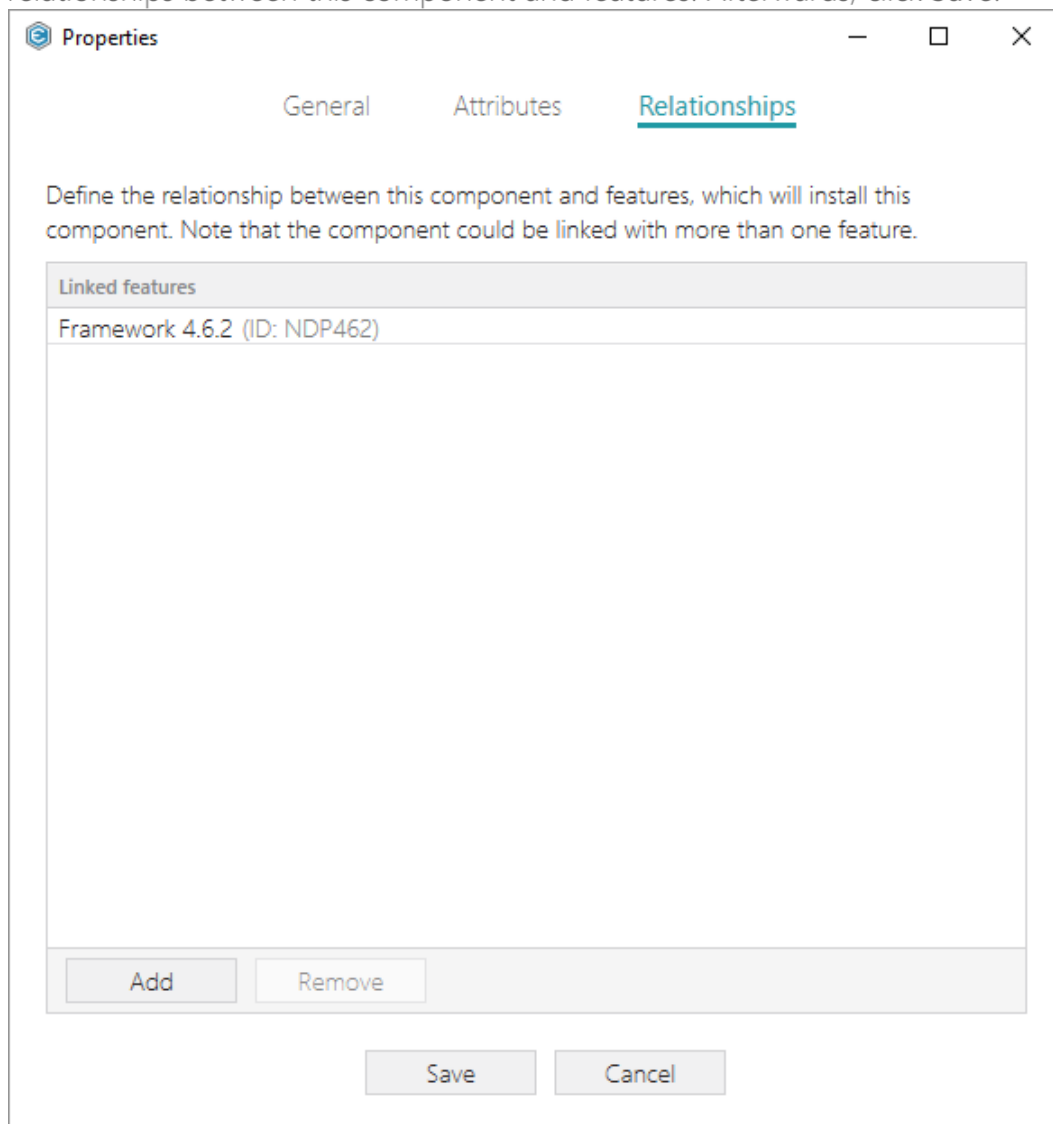


The screenshot shows the 'Properties' window with the 'Attributes' tab selected. The window has three tabs: 'General', 'Attributes', and 'Relationships'. The 'Attributes' tab contains the following settings:

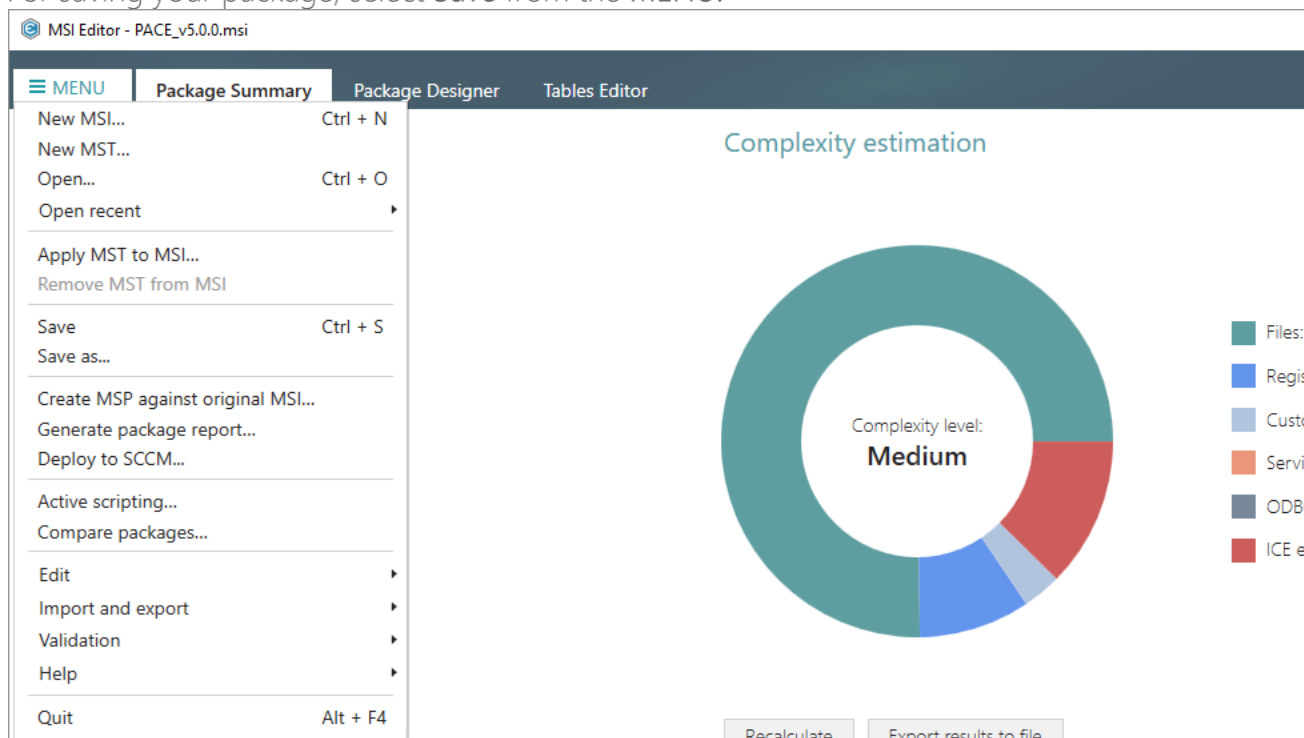
- Installation type:** A dropdown menu showing 'Allow component installation locally only' with a blue checkmark.
- ☐ **64-bit component**
Allow this component to install resources to the 64-bit locations.
- ☐ **Shared DLL reference count**
Increment the reference count in the shared DLL registry of the component's key file.
- ☐ **Permanent**
Do not remove this component from the system during an uninstall.
- ☐ **Transitive**
Re-evaluate the component Conditions upon a reinstall and install or remove the component respectively. See [Using Transitive Components online](#).
- ☐ **Never overwrite**
Do not install or reinstall the component if its KeyPath (file or registry) already exists.
- ☐ **Disable registry reflection**
Disable [Registry Reflection](#) on all existing and new registry keys affected by this component.
- ☐ **Uninstall on supersedence (Windows Installer 4.5 and higher)**
Prevent leaving orphan components of the patch package on the computer.
- ☐ **Shared (Windows Installer 4.5 and higher)**
Share this component, installed on the system, among other packages.

At the bottom of the window are two buttons: 'Save' and 'Cancel'.

- The Relationships tab of the Properties window allows changing existing and adding new relationships between this component and features. Afterwards, click Save.



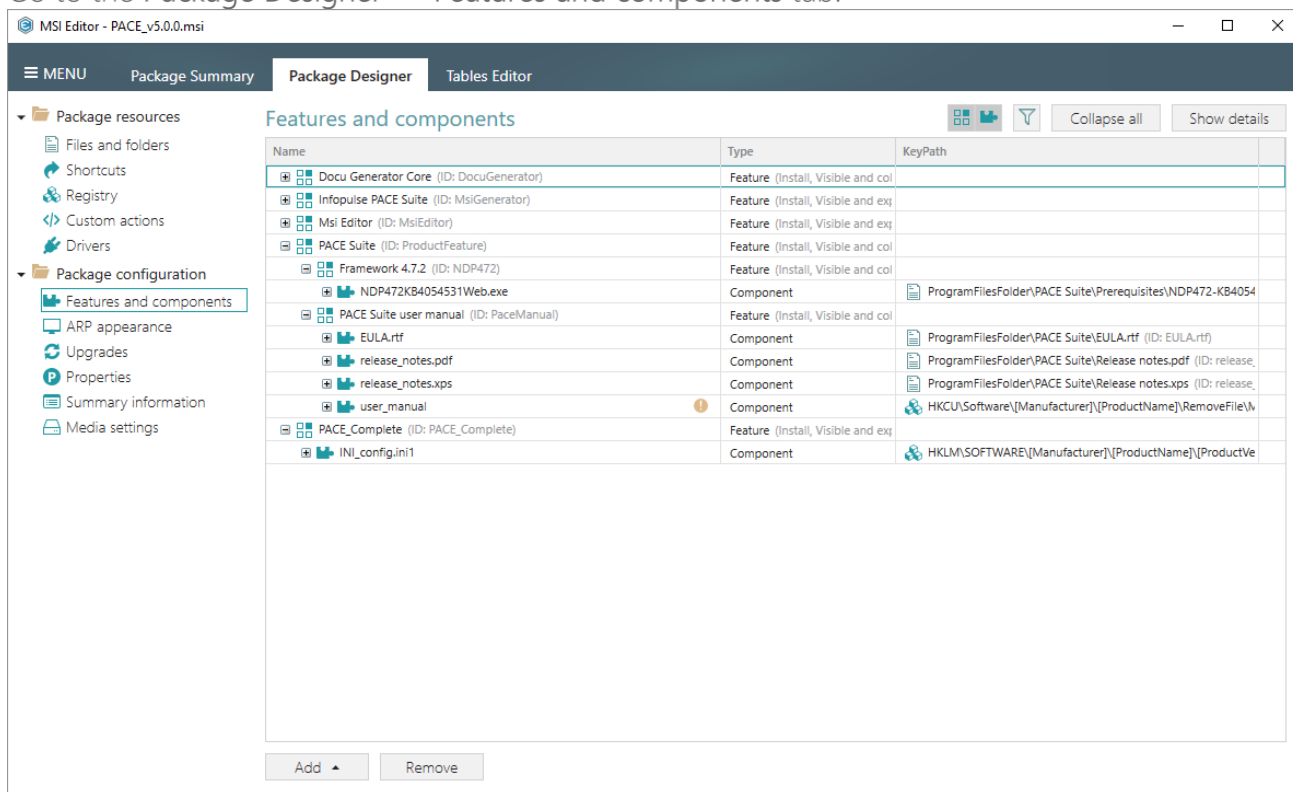
- For saving your package, select Save from the MENU.




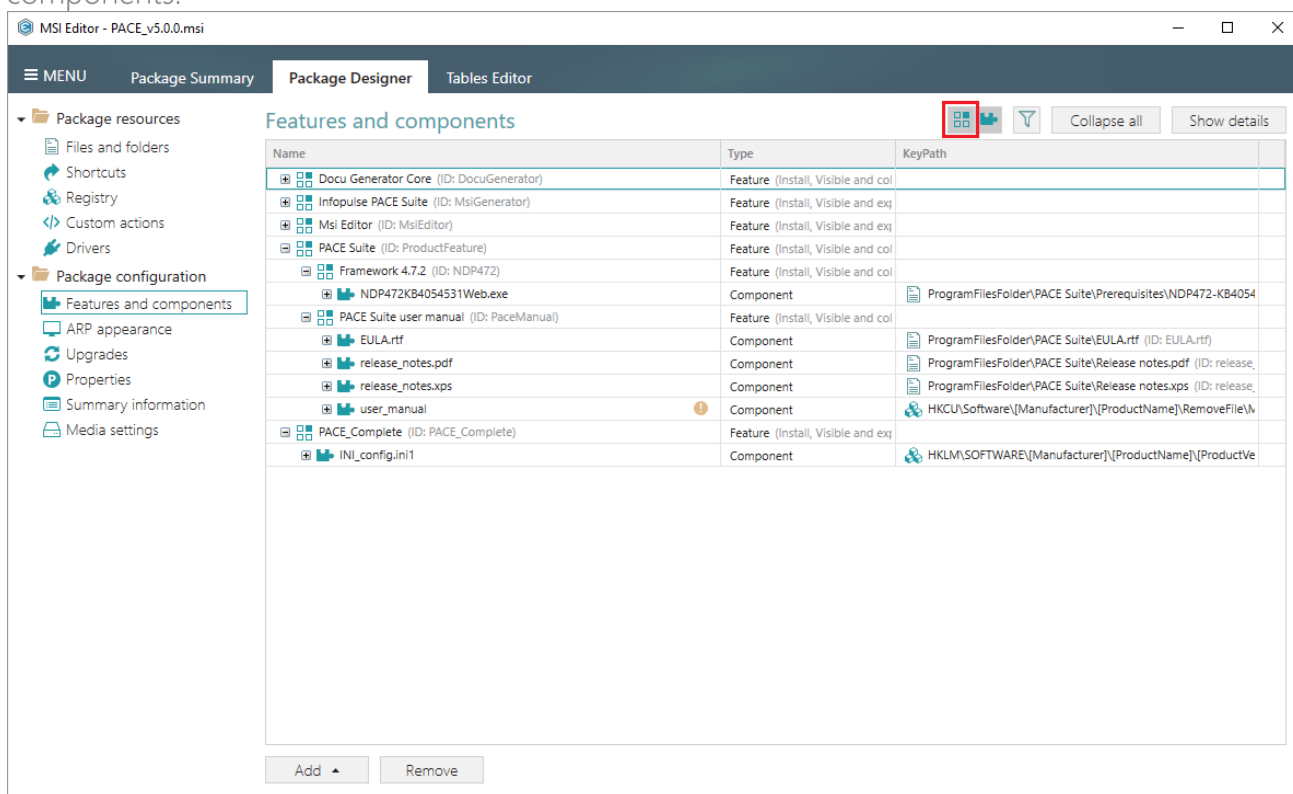
3.7.9.6 Detect Empty Components

Find empty components with no linked resources in order to remove them.

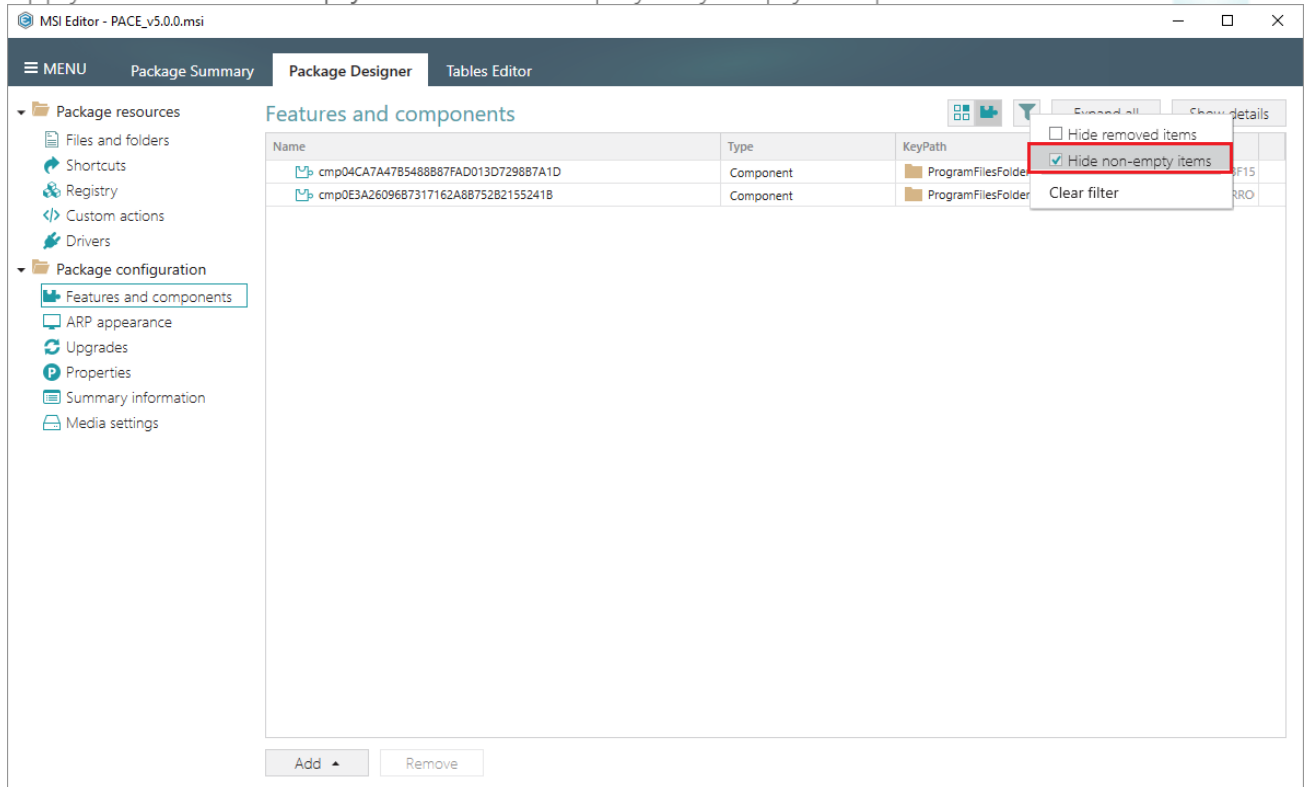
- Go to the Package Designer -> Features and components tab.



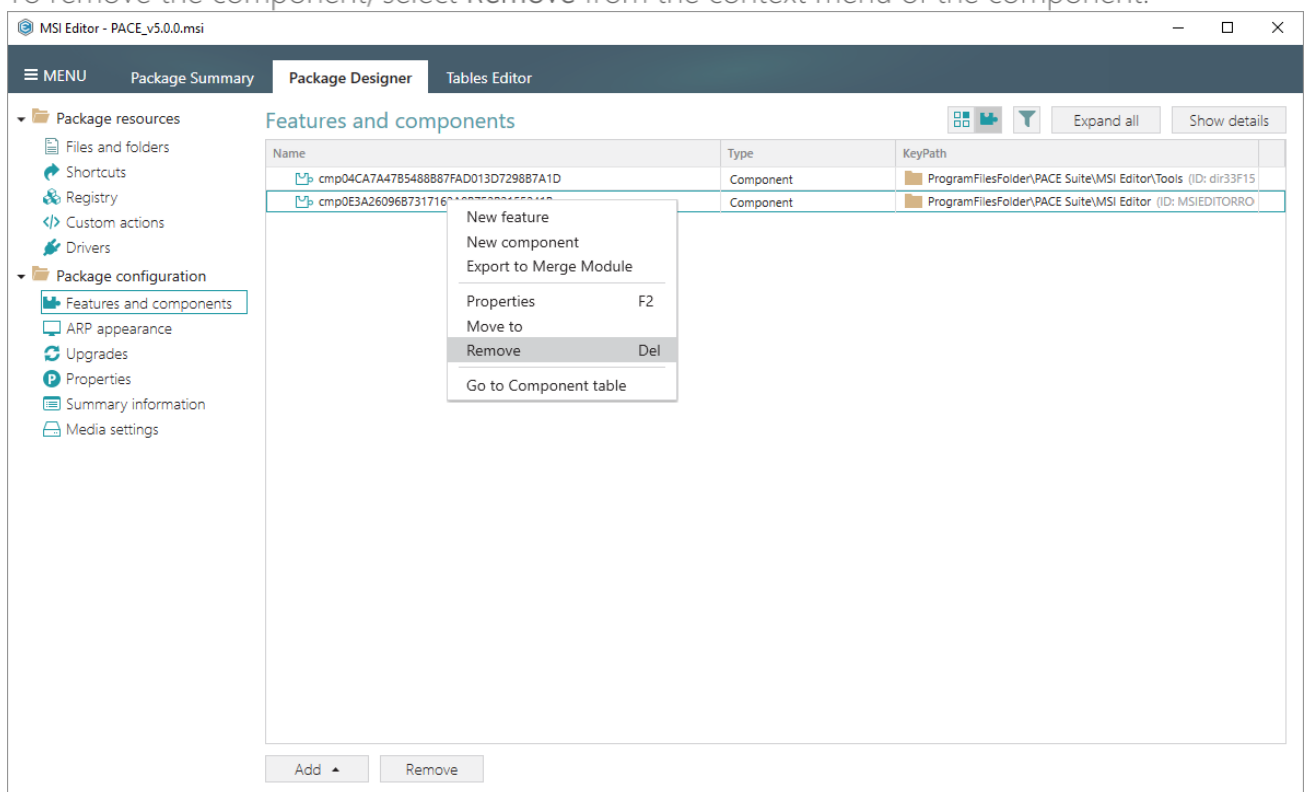
- Click on the 'feature' icon , located near the Filters, to hide all features and display only components.



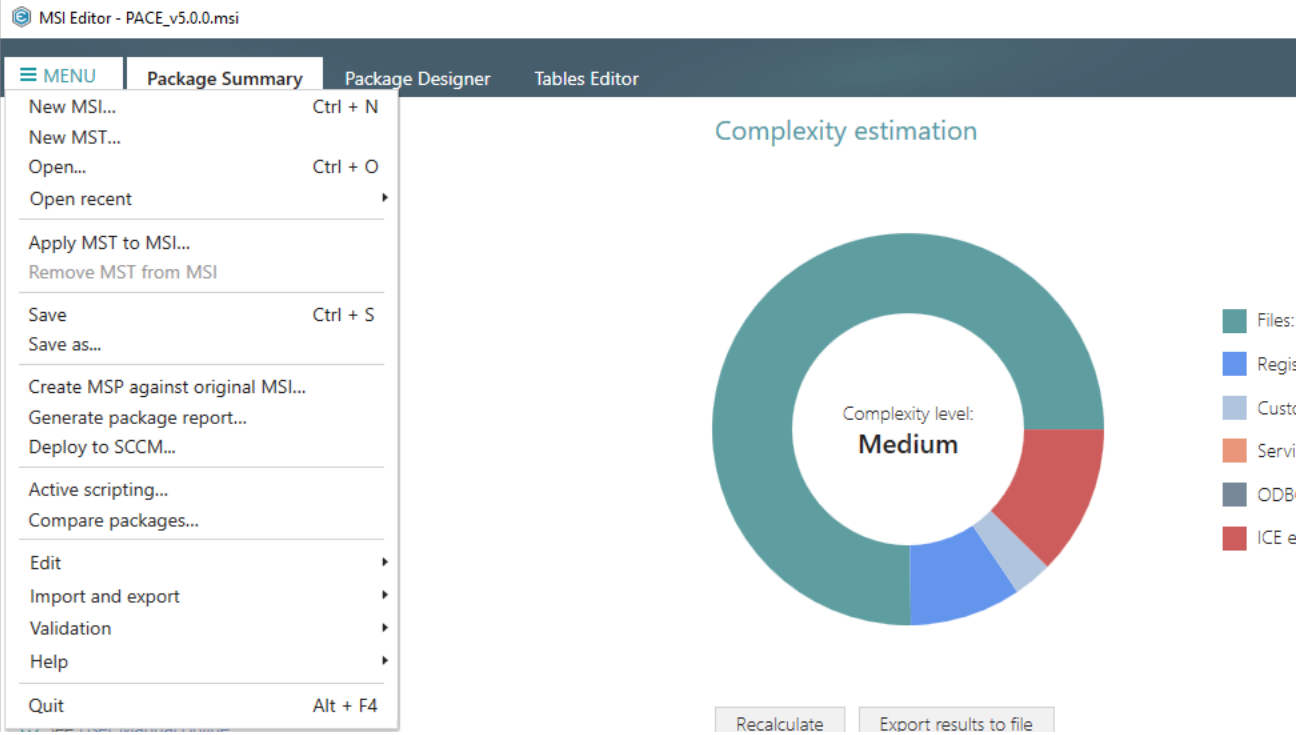
- Apply the Hide non-empty items filter to display only empty components.



- To remove the component, select Remove from the context menu of the component.



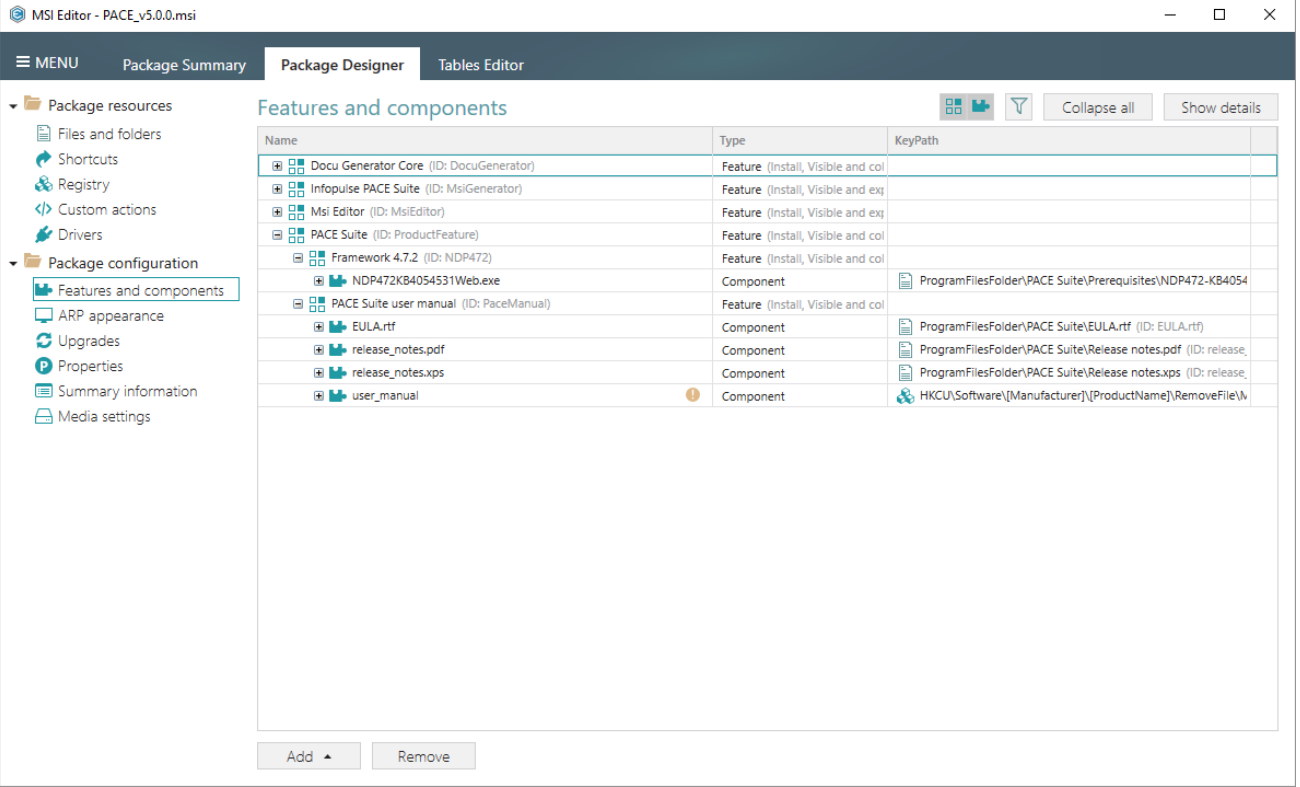
- For saving your package, select Save from the MENU.




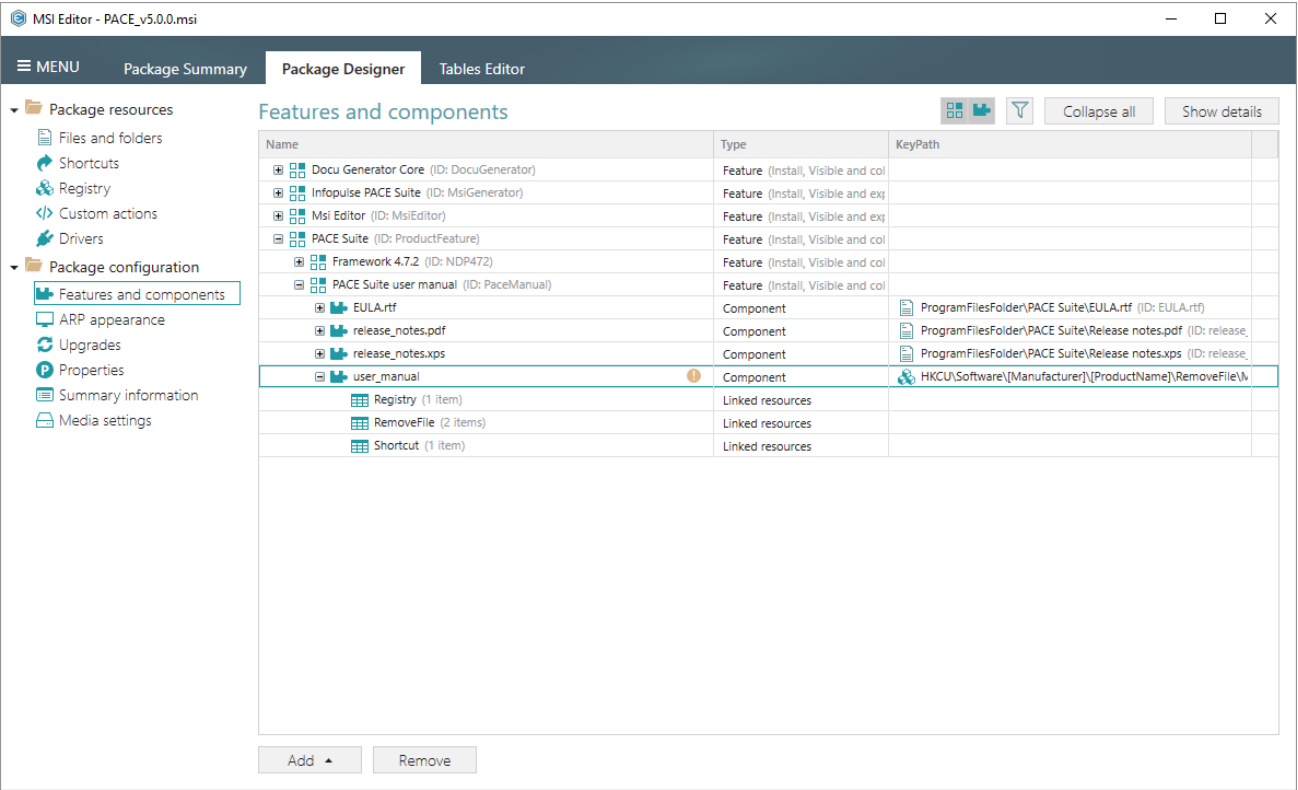
3.7.9.7 Review Component Resources

Review what resources (files, registry, shortcuts, etc.) are linked with the component.

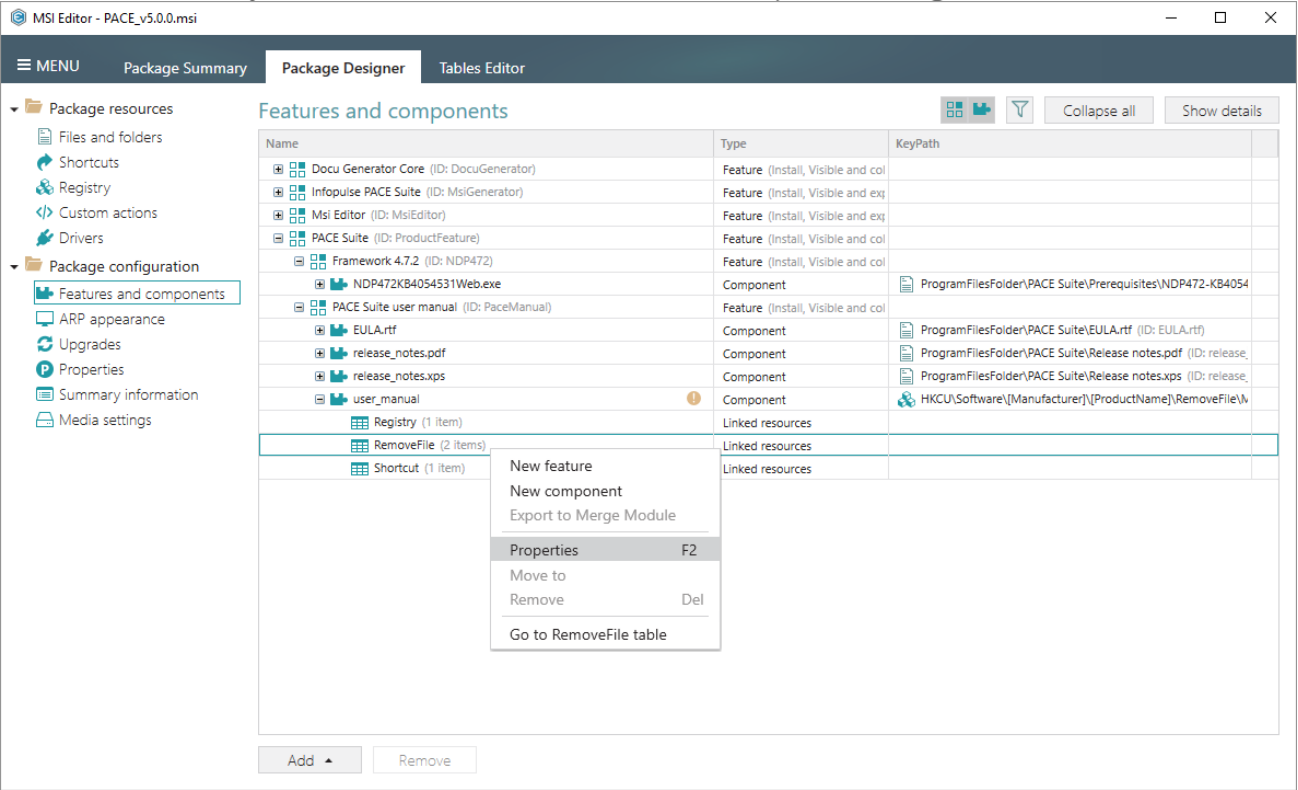
- Go to the Package Designer -> Features and components tab.




- Find the necessary component and click  to expand the component node and to review resources, linked with this component. Note that all resources are grouped by tables, from which these resources were read.




- Select Properties from the context menu of a group of component resources you want to review. Alternatively, review these resources in the Details pane clicking Show details.



- Find the detailed information about the linked resources from one table in the grid view.


Properties
— □ ×


MSI table: 'RemoveFile'

Content

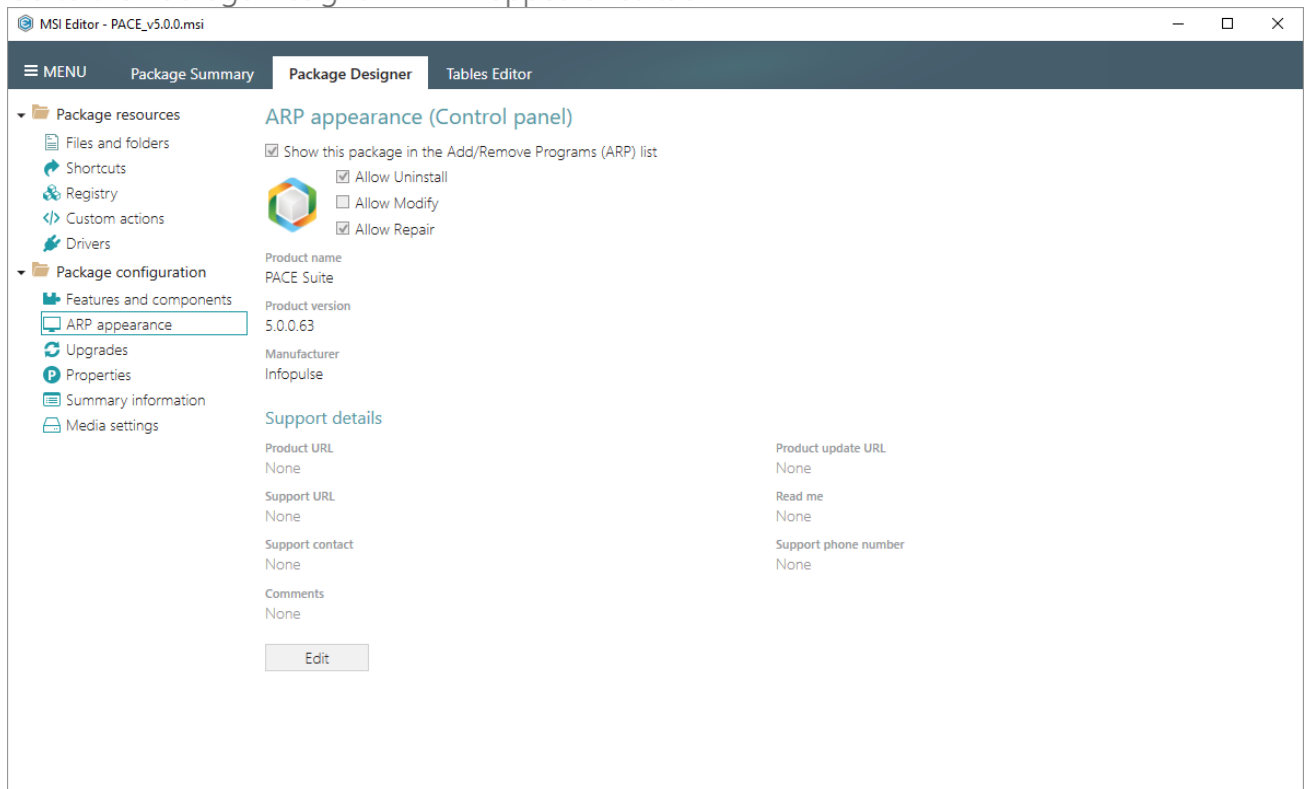
FileKey	Component_	FileName	DirProperty	InstallMode	
▶ INSTALLDIR	user_manual		INSTALLDIR	3	▲
InfopulseSh	user_manual		InfopulseProgramMenuFolder	2	
APPVGENINSTALLDIR	user_manual		APPVGENINSTALLDIR	3	

Close

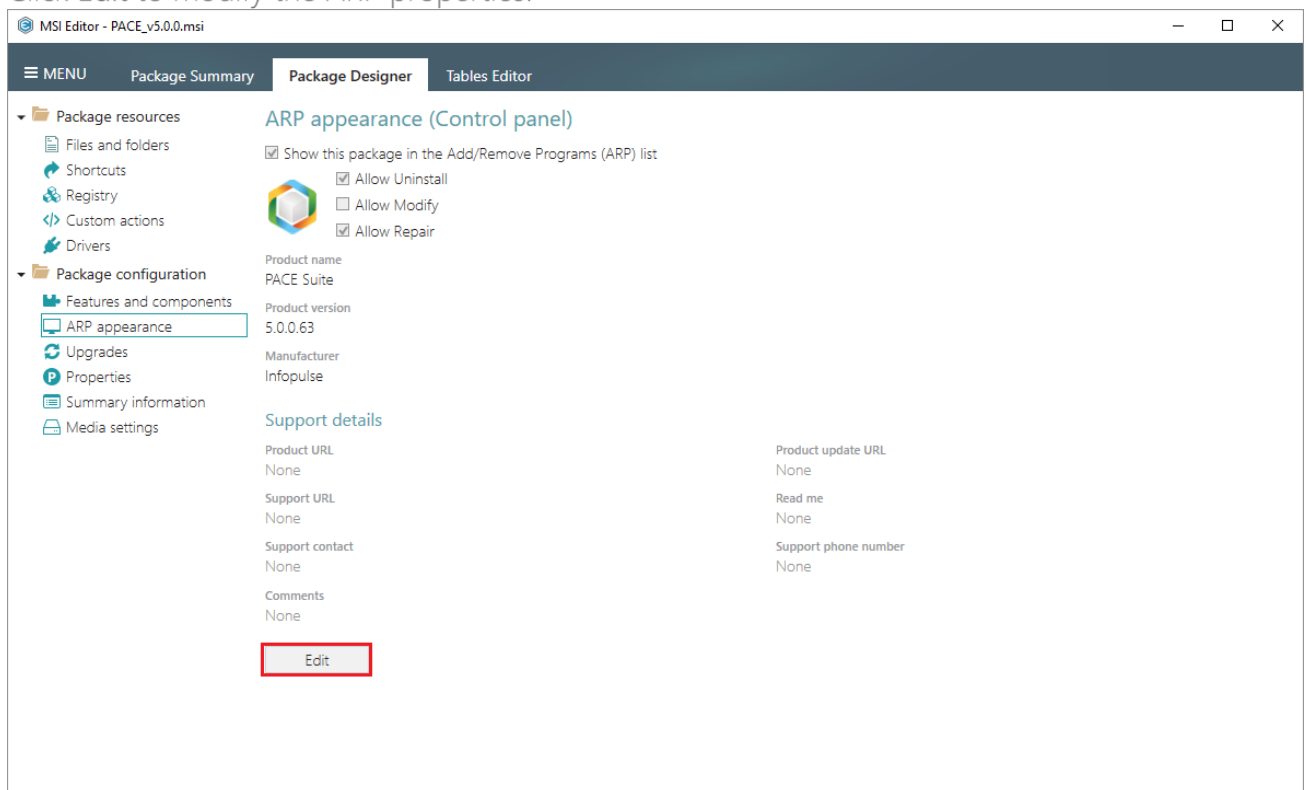
3.7.10 ARP Appearance

Control how the package will be displayed in the App list (Add & Remove Programs).

- Go to the Package Designer -> ARP appearance tab.




- Click Edit to modify the ARP properties.



- Update the necessary values such as package icon, availability of the Uninstall, Modify, Repair buttons, application name, version, manufacturer and support details. Afterwards, click Save.

ARP appearance

☒ Show this package in the Add/Remove Programs (ARP) list



☒ Allow Uninstall
☐ Allow Modify
☒ Allow Repair

Product name

PACE Suite

Product version

5.0.0.63

Manufacturer

Infopulse

Support details

Product URL

Product update URL

Support URL

Read me

Support contact

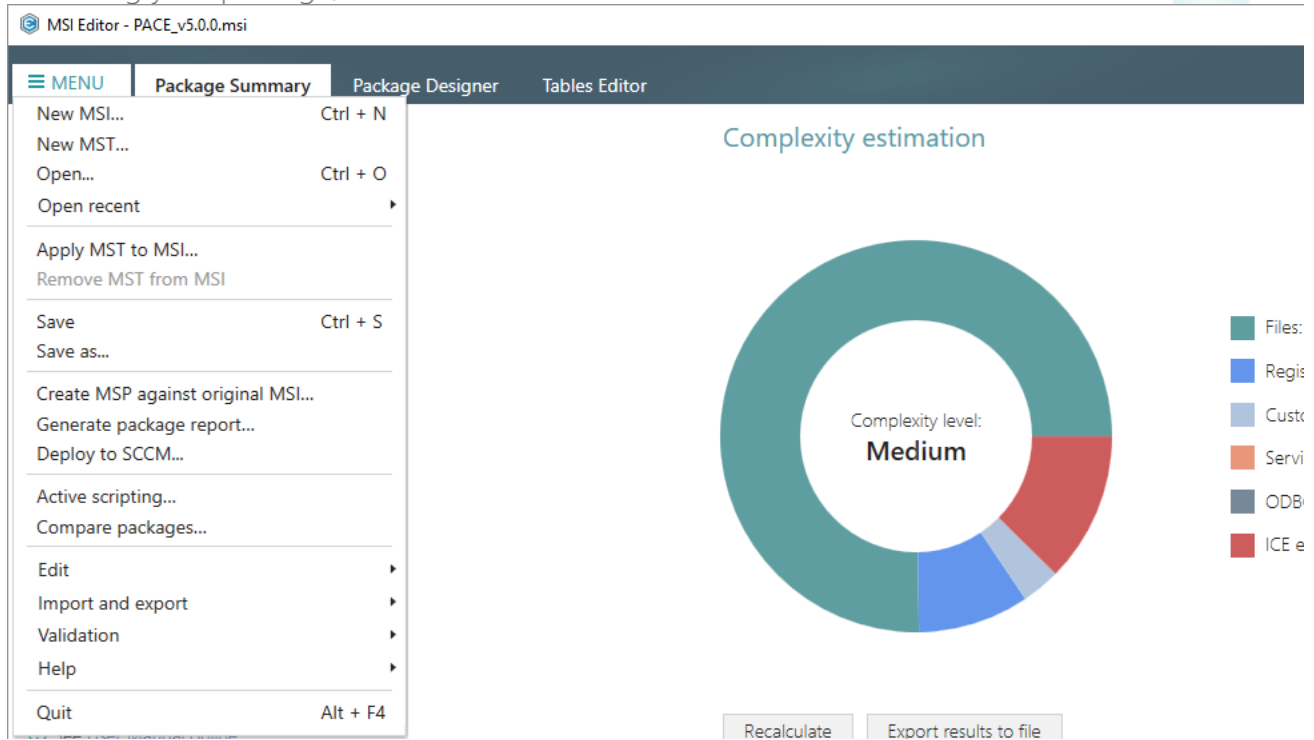
Support phone number

Comments

Save

Cancel

- For saving your package, select Save from the MENU.



3.7.11 Upgrades

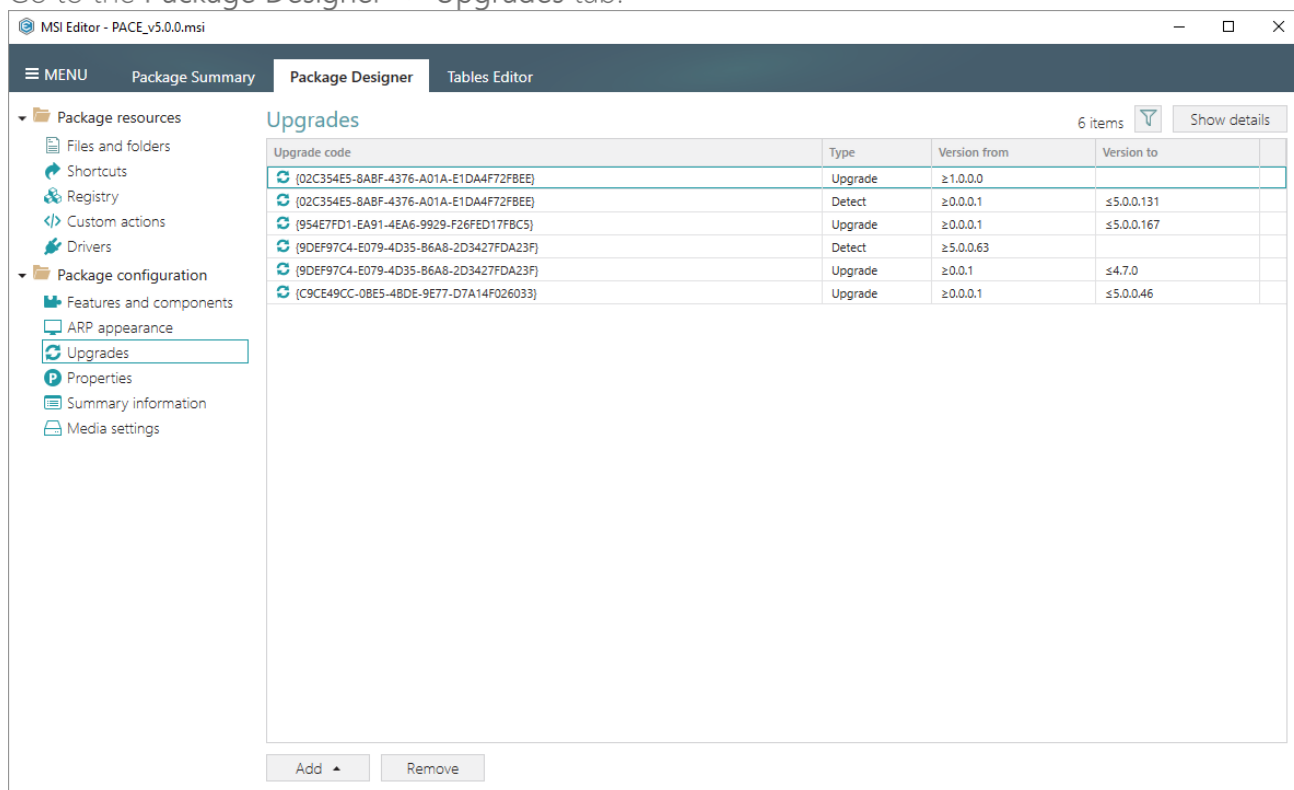
Choose a scenario that better suits your needs:

- **Import Upgrades**, described in section 3.7.11.1
Implement the upgrade of previous MSI packages just selecting them from the file system.
- **Add Upgrade**, described in section 3.7.11.2
Add the new upgrade manually.
- **Edit Upgrade**, described in section 3.7.11.3
Edit the upgrade settings.

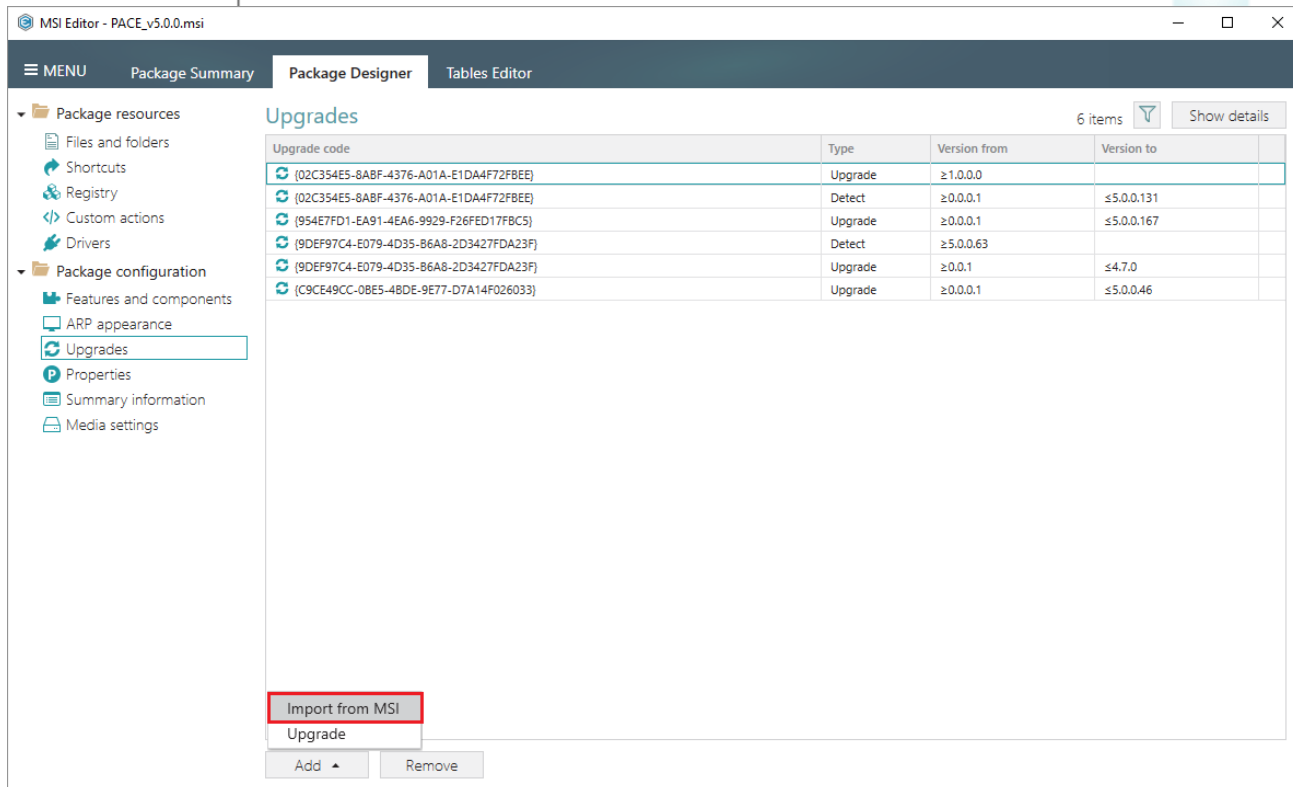
3.7.11.1 Import Upgrades

Implement the upgrade of previous MSI packages just selecting them from the file system.

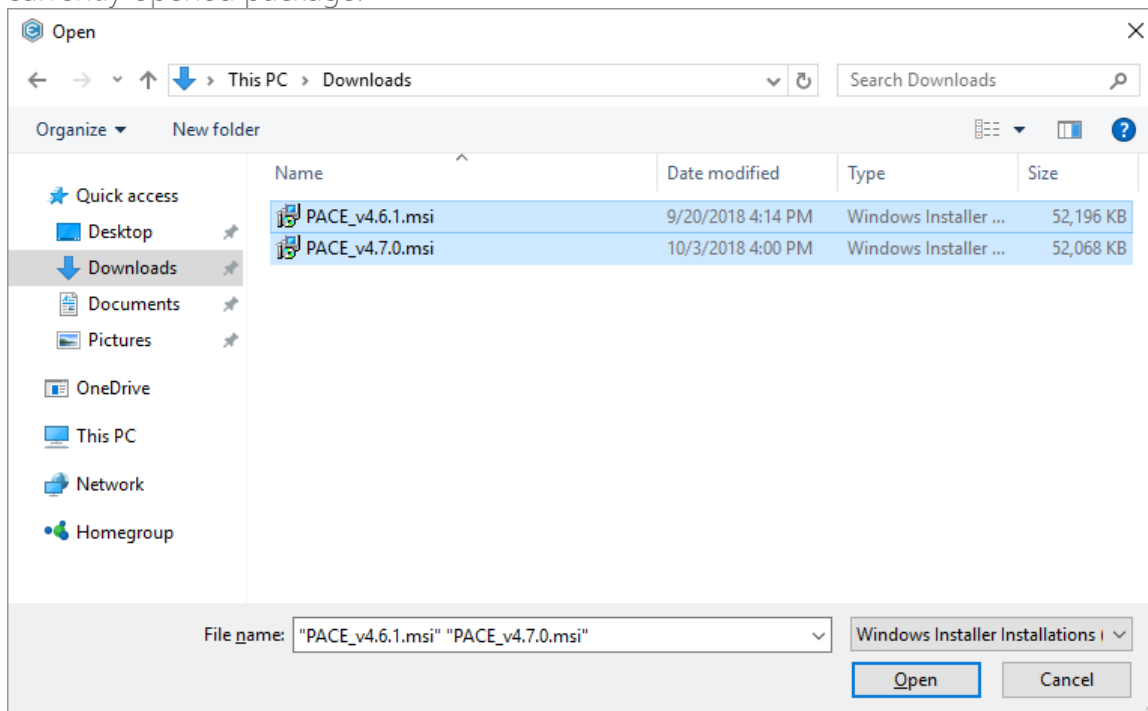
- Go to the Package Designer -> Upgrades tab.



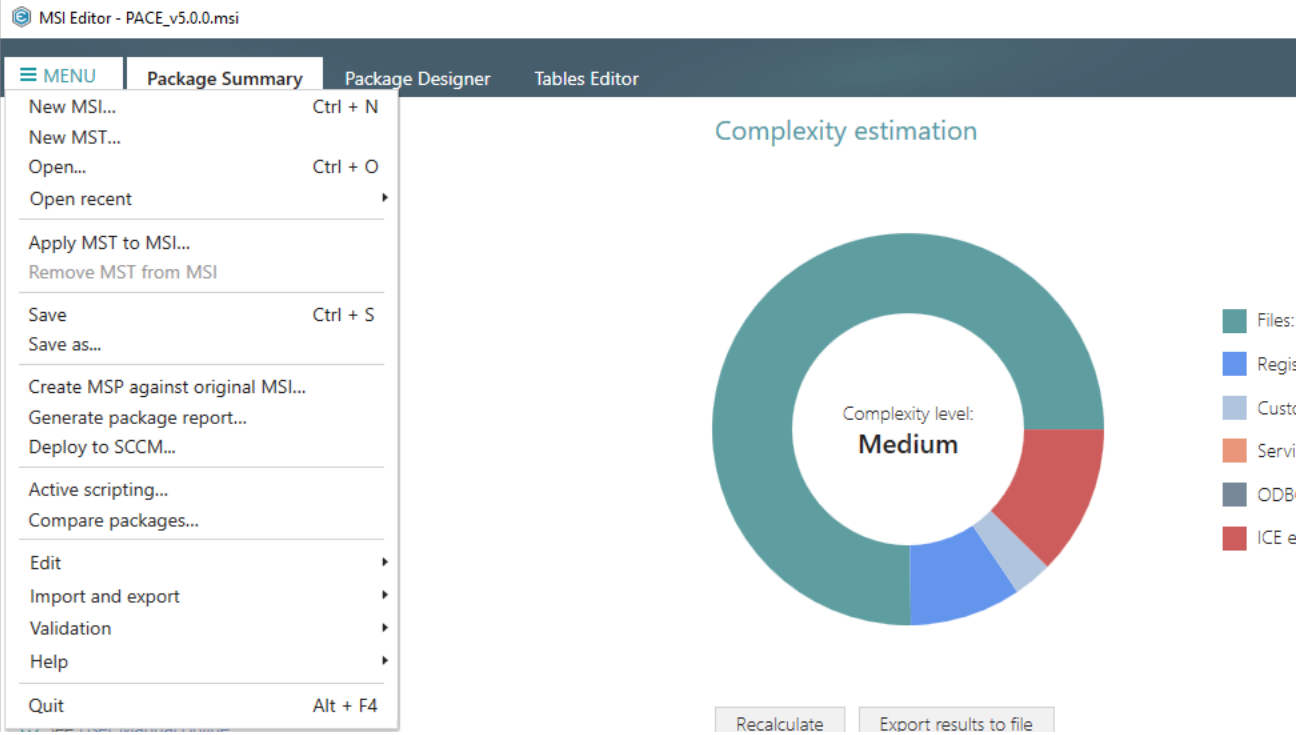
- Select Add -> Import from MSI from the toolbox.



- Select MSI packages, which you want to upgrade and click Open. The upgraded packages will be automatically removed from the target system, if exist, during the installation of the currently opened package.



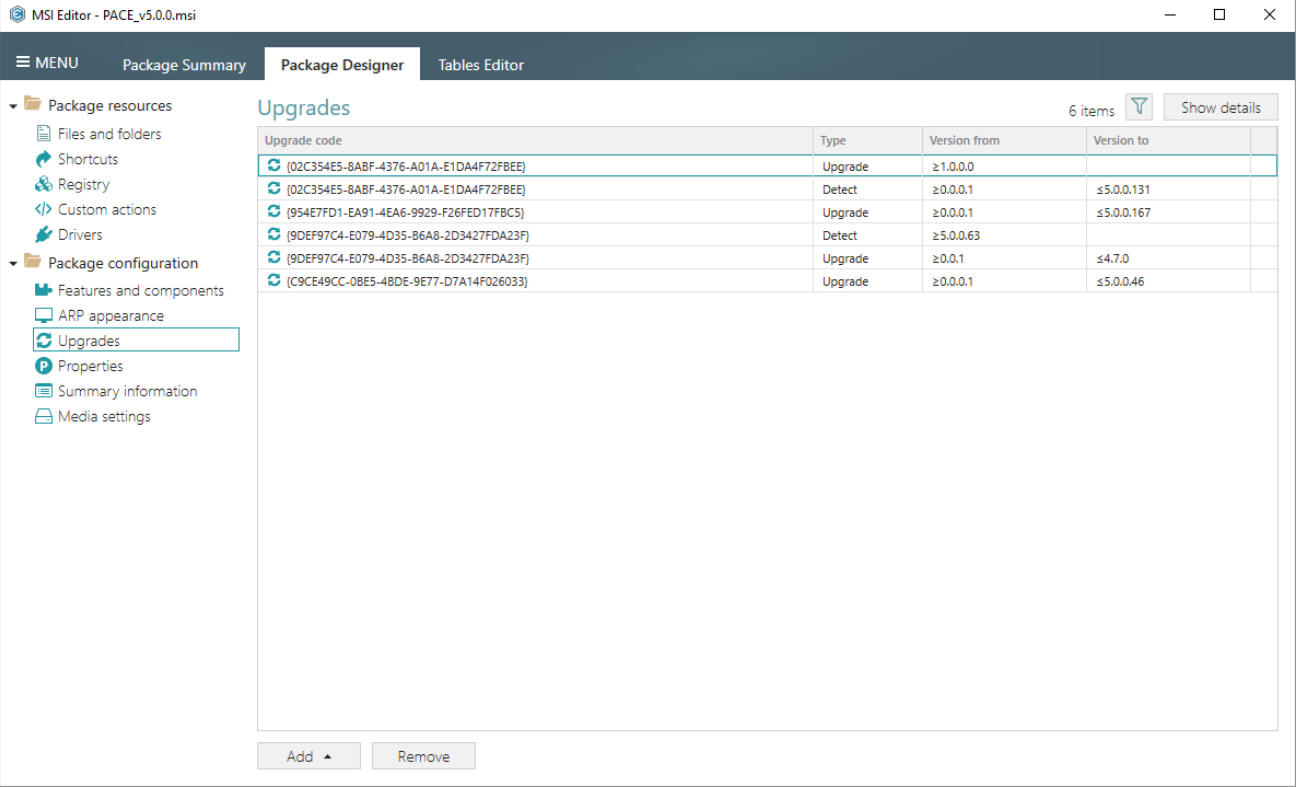
- For saving your package, select Save from the MENU.



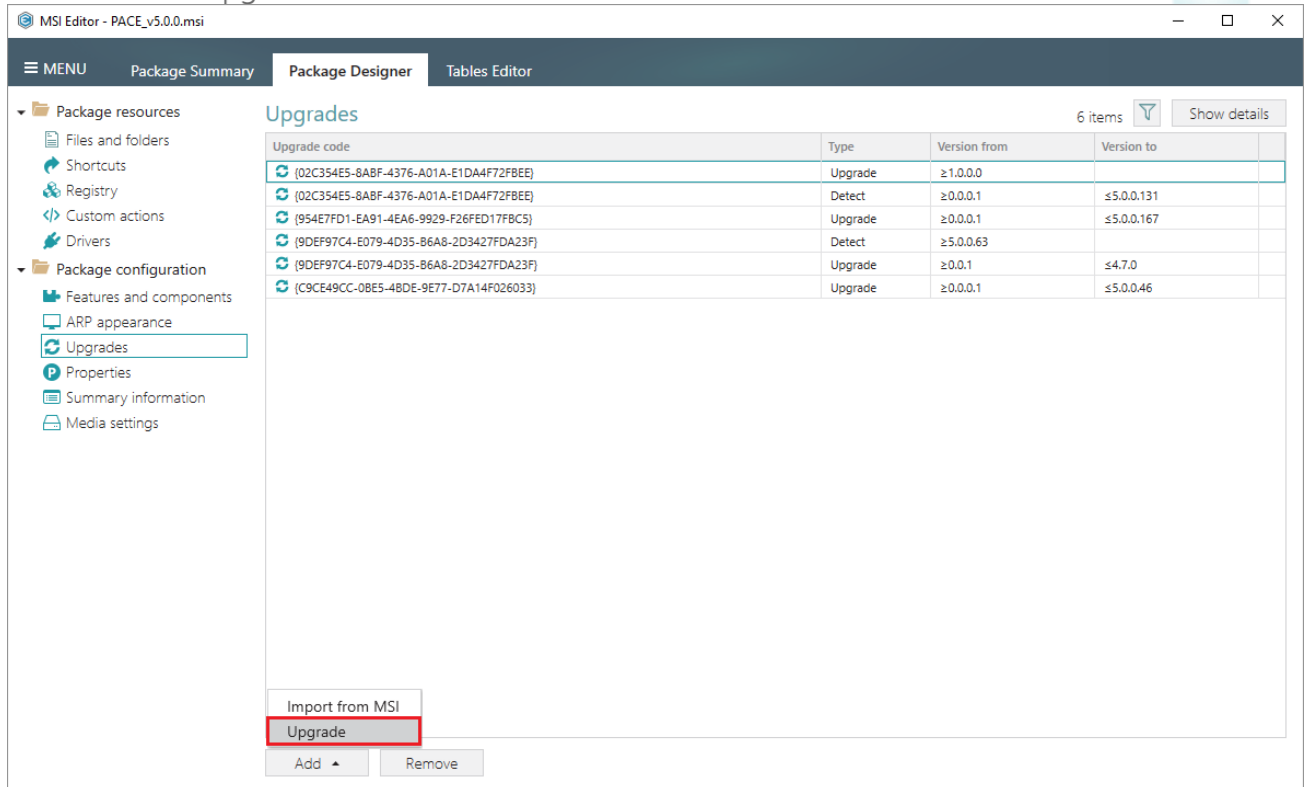
3.7.11.2 Add Upgrade

Add the new upgrade manually.

- Go to the Package Designer -> Upgrades tab.



- Select Add -> Upgrade from toolbox.



- Specify an upgrade code of the previous package(s), range of product versions, which should be upgraded, type of upgrade (detect only or upgrade), and click the Include to SecureCustomProperties link to include the specified action property to the

SecureCustomProperties MSI property. Afterwards, click Save.

Properties

MSI table: 'Upgrade'

Upgrade code

Version from

Version to

☐ Including the specified version

☐ Including the specified version

Type

Upgrade the package

Details

Languages

Applies only to the specified languages

☐ Migrate feature states

Features to remove

Action property

UPGRADE

Include to SecureCustomProperties

☐ Ignore the upgrade failure and continue installation

Save Cancel

- For saving your package, select Save from the MENU.

MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer Tables Editor

New MSI... Ctrl + N

New MST...

Open... Ctrl + O

Open recent

Apply MST to MSI...

Remove MST from MSI

Save Ctrl + S

Save as...

Create MSP against original MSI...

Generate package report...

Deploy to SCCM...

Active scripting...

Compare packages...

Edit

Import and export

Validation

Help

Quit Alt + F4

Complexity estimation

Complexity level: **Medium**

Files:

Regis

Custr

Servi

ODB

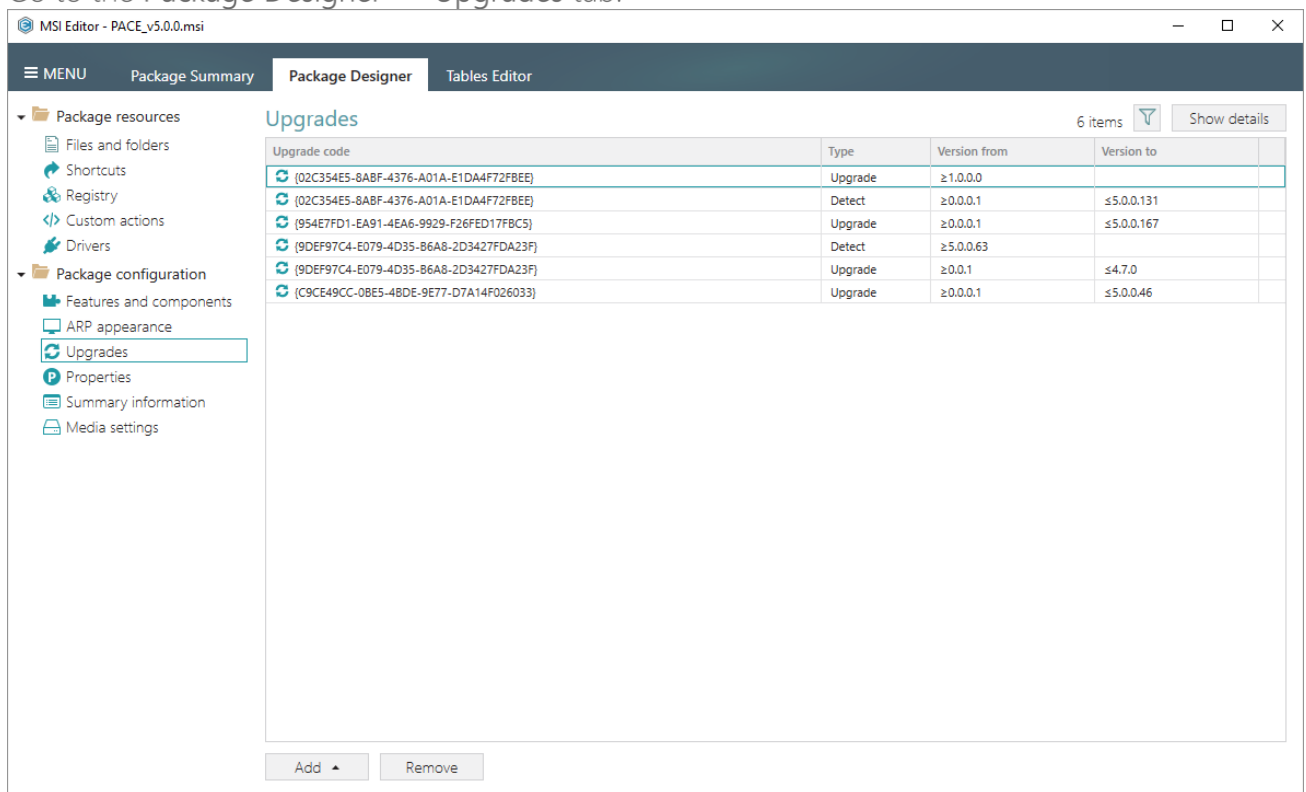
ICE e

Recalculate Export results to file

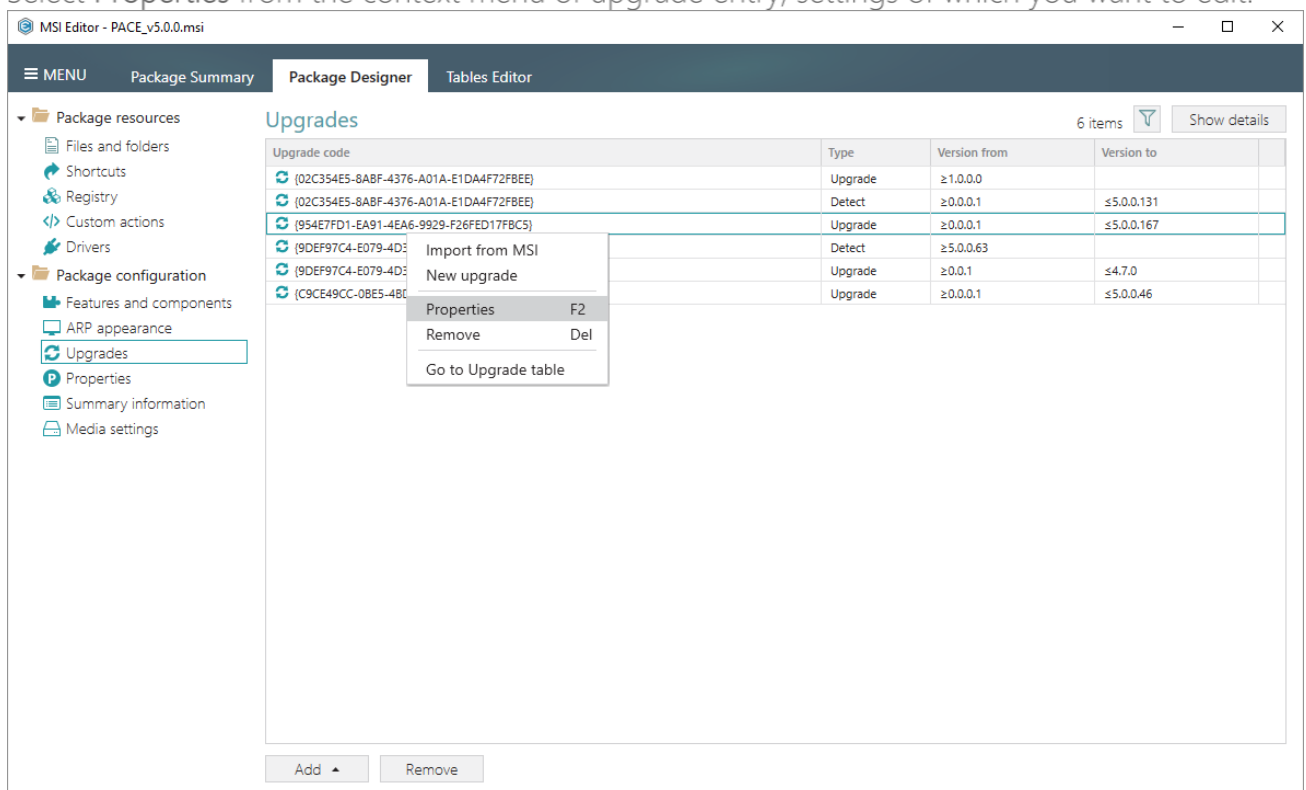
3.7.11.3 Edit Upgrade

Edit the upgrade settings.


- Go to the Package Designer -> Upgrades tab.



- Select Properties from the context menu of upgrade entry, settings of which you want to edit.



- Update the necessary values such as upgrade code, range of versions, upgrade type, action property and the like. Afterwards, click Save.


MSI table: 'Upgrade'

Upgrade code

Version from

Version to

☒ Including the specified version

☒ Including the specified version

Type

Details

Languages

☐ Migrate feature states

Features to remove

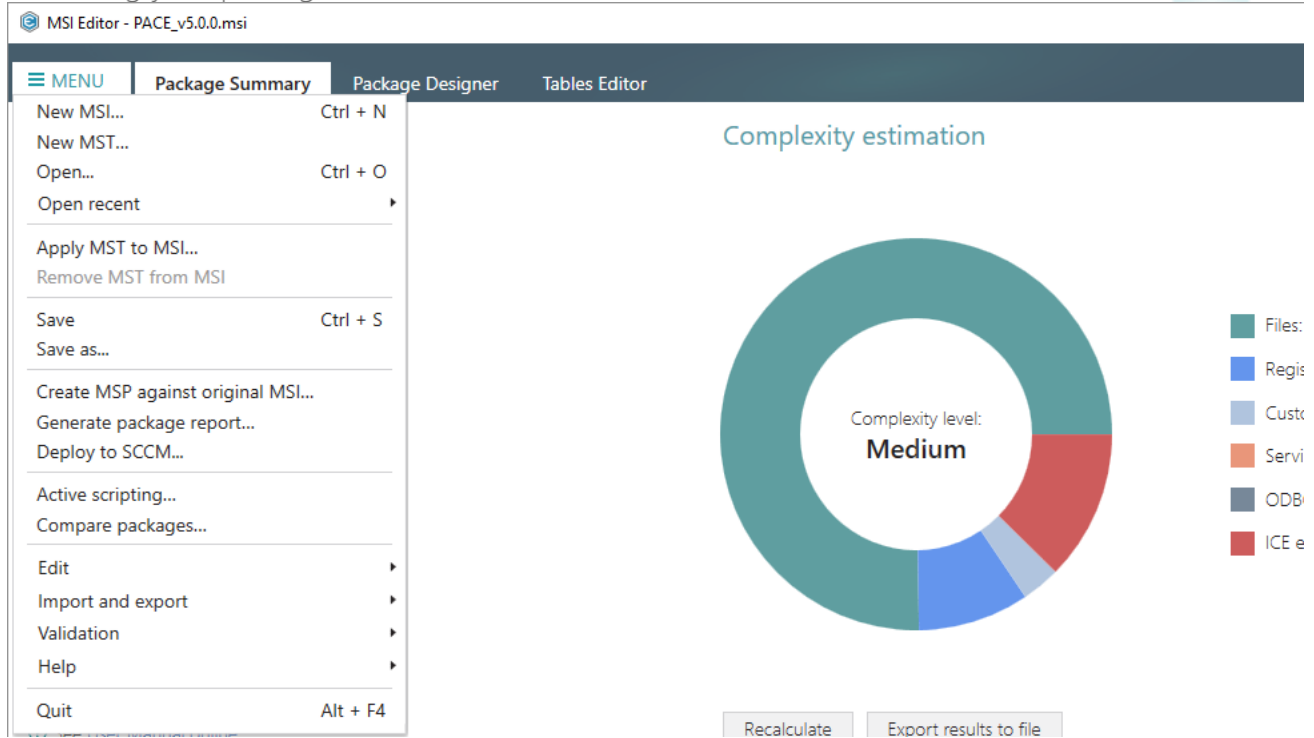
Action property

☒ Ignore the upgrade failure and continue installation

Save

Cancel

- For saving your package, select Save from the MENU.



3.7.12 Properties

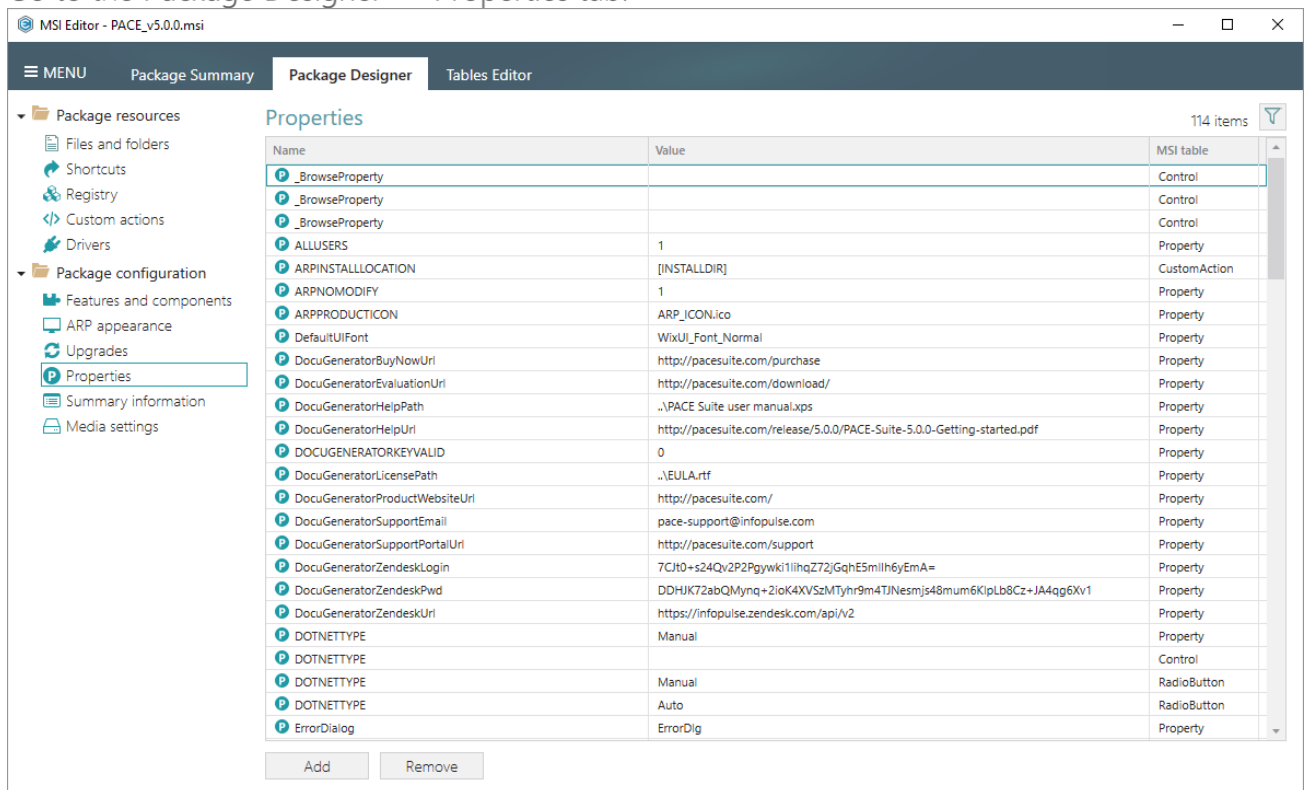
Choose a scenario that better suits your needs:

- **Add Property**, described in section 3.7.12.1
Add a new property to the package.
- **Edit Property**, described in section 3.7.12.2
Edit a name and a value of the existing property.

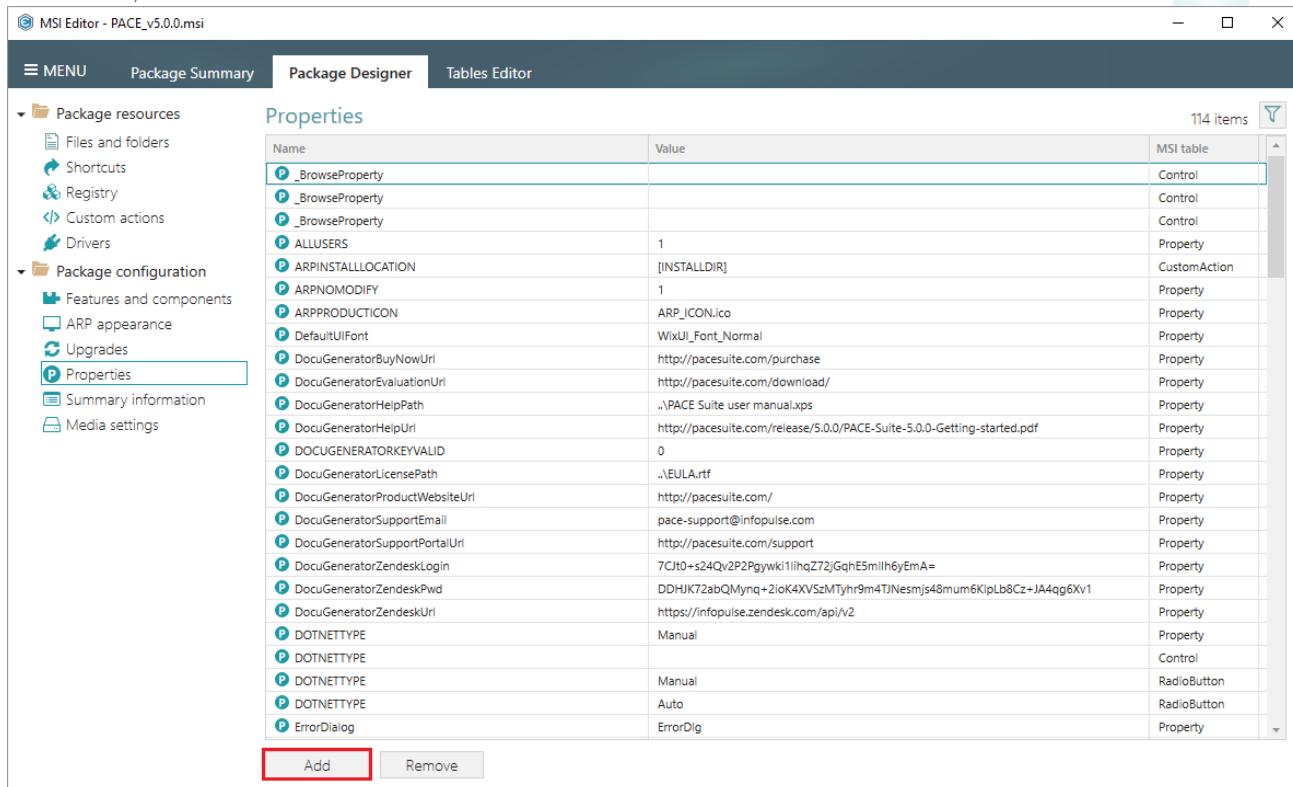
3.7.12.1 Add Property

Add a new property to the package.

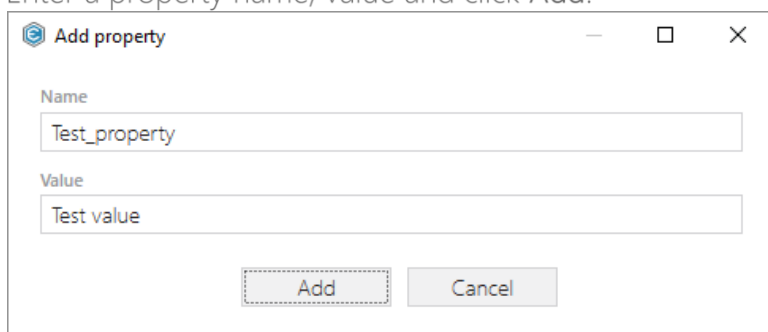
- Go to the Package Designer -> Properties tab.



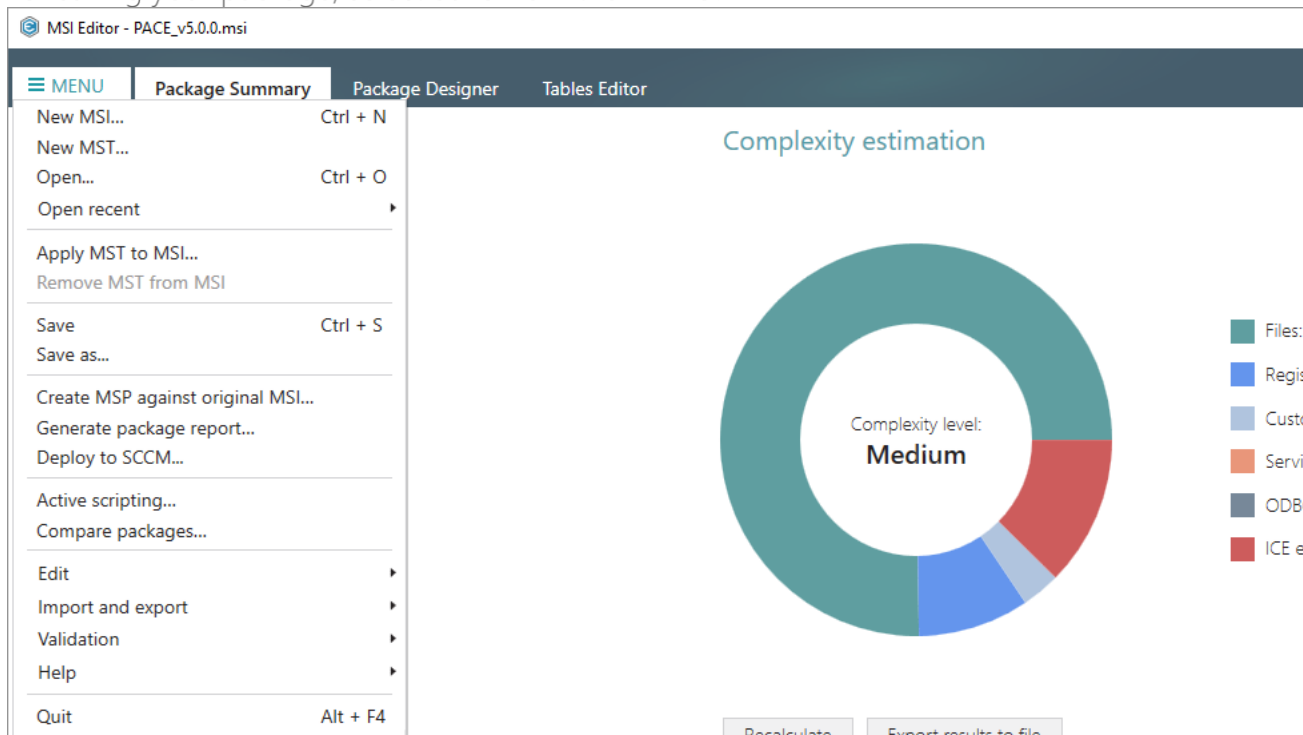
- Click Add, located in the toolbox.



- Enter a property name, value and click Add.



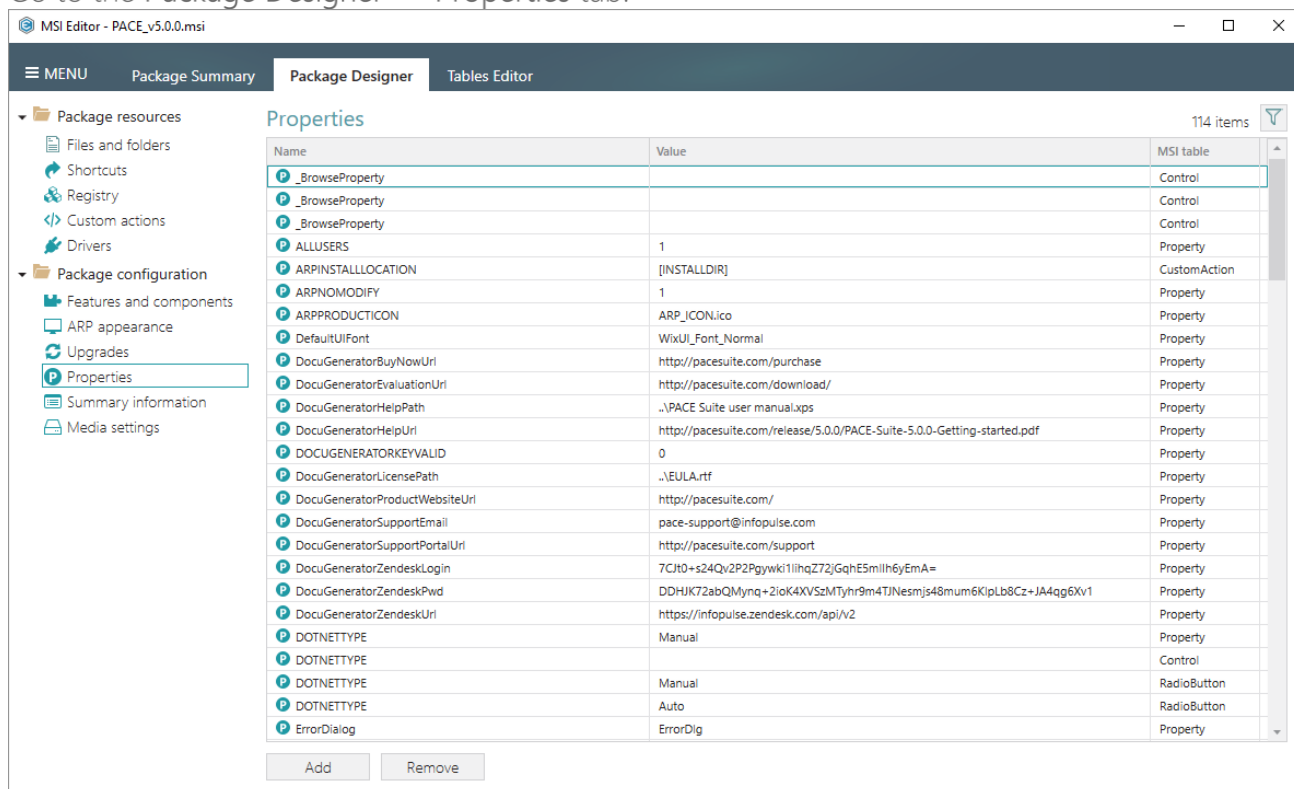
- For saving your package, select Save from the MENU.



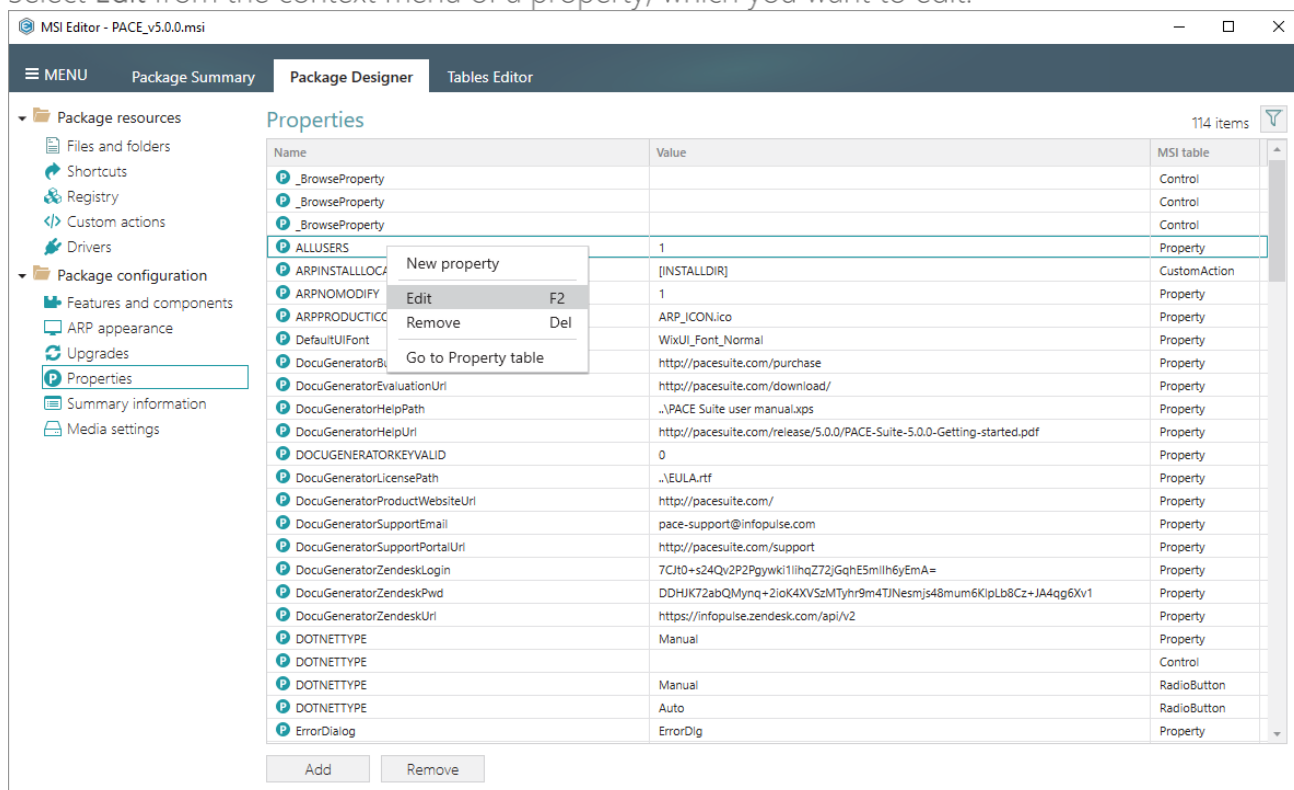
3.7.12.2 Edit Property

Edit a name and value of the existing property.

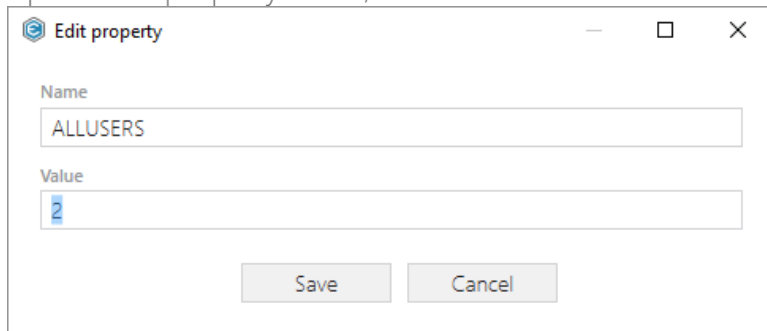
- Go to the Package Designer -> Properties tab.



- Select Edit from the context menu of a property, which you want to edit.

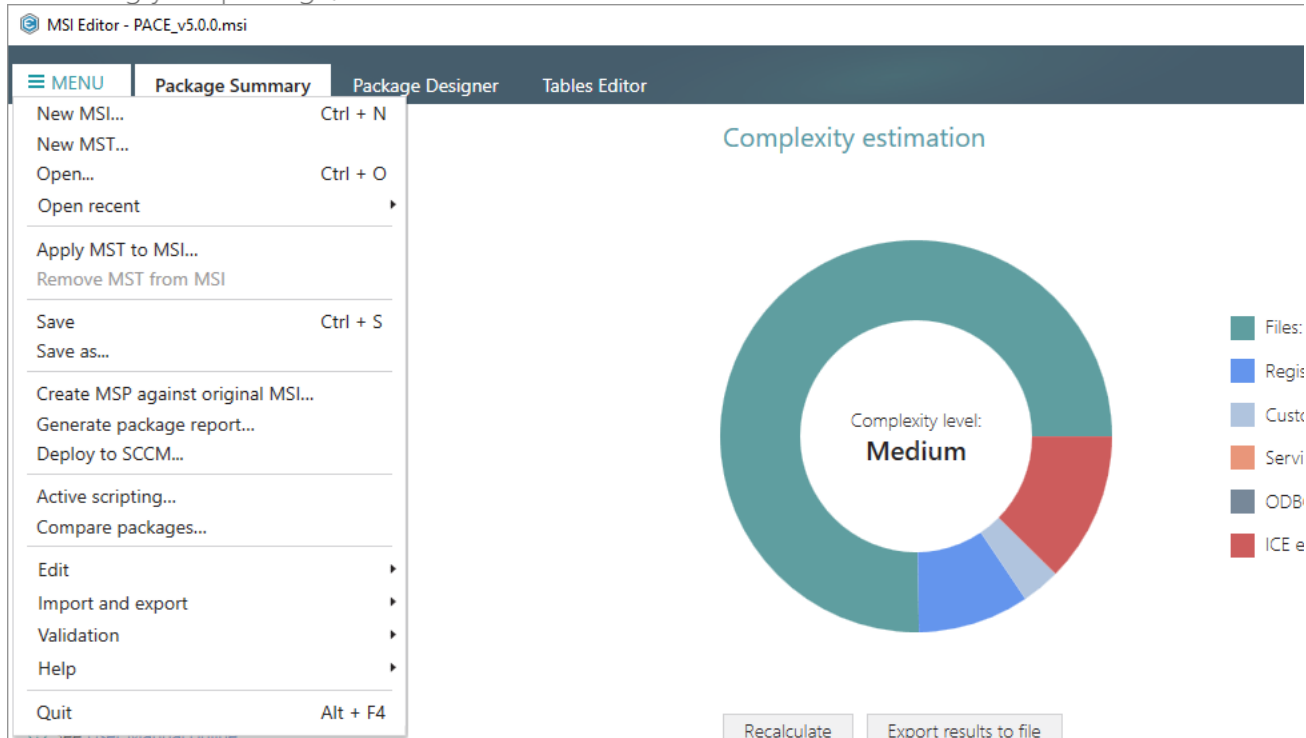


- Update the property name, value and click Save.



The 'Edit property' dialog box has a title bar with a close button. It contains two text input fields: 'Name' with the text 'ALLUSERS' and 'Value' with the text '2'. At the bottom are 'Save' and 'Cancel' buttons.

- For saving your package, select Save from the MENU.

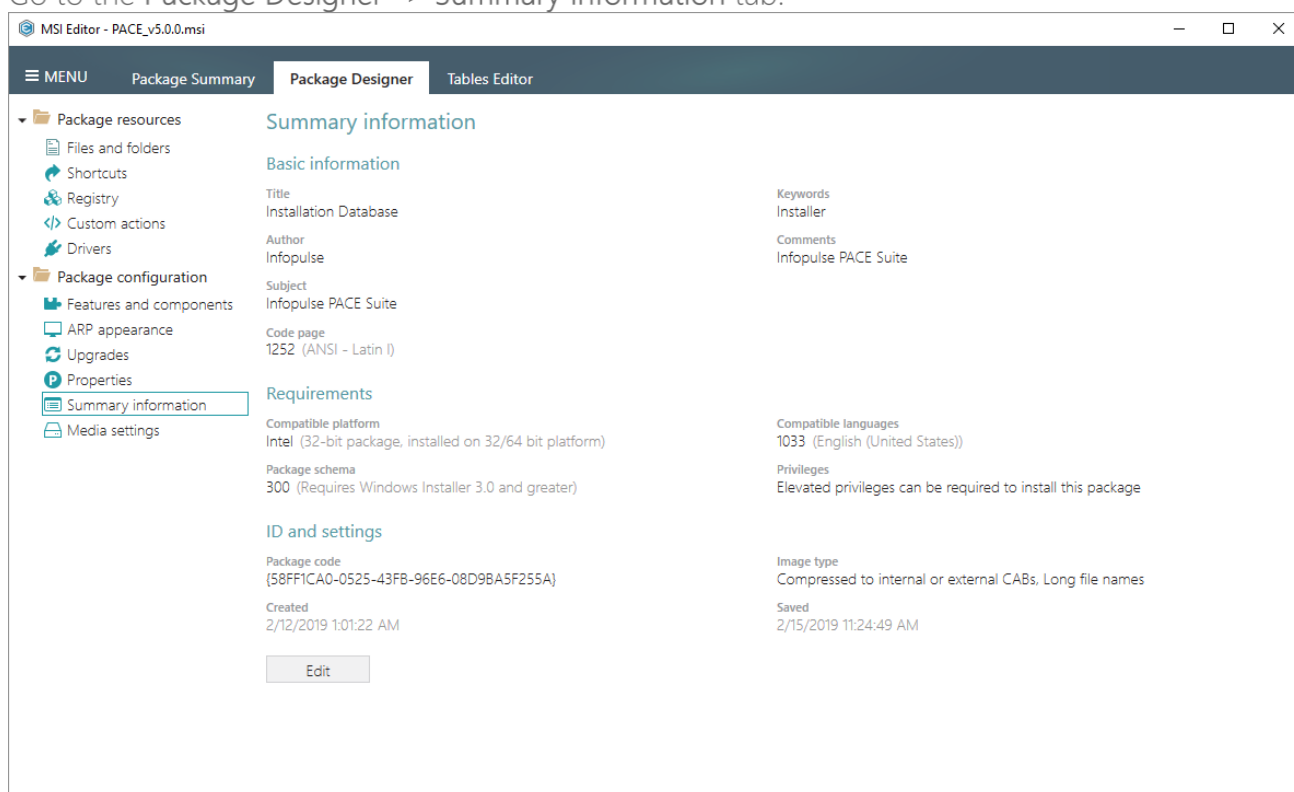


The MSI Editor interface shows the 'MENU' dropdown open. The 'Save' option is highlighted, with the keyboard shortcut 'Ctrl + S'. The main window displays a 'Complexity estimation' donut chart. The chart is divided into five segments: Files (dark teal, ~55%), Regis (blue, ~15%), Cust (light blue, ~5%), Servi (orange, ~10%), and ODB (dark grey, ~15%). The center of the chart indicates a 'Complexity level: Medium'. A legend on the right lists the categories: Files, Regis, Cust, Servi, ODB, and ICE e. At the bottom of the chart area are 'Recalculate' and 'Export results to file' buttons.

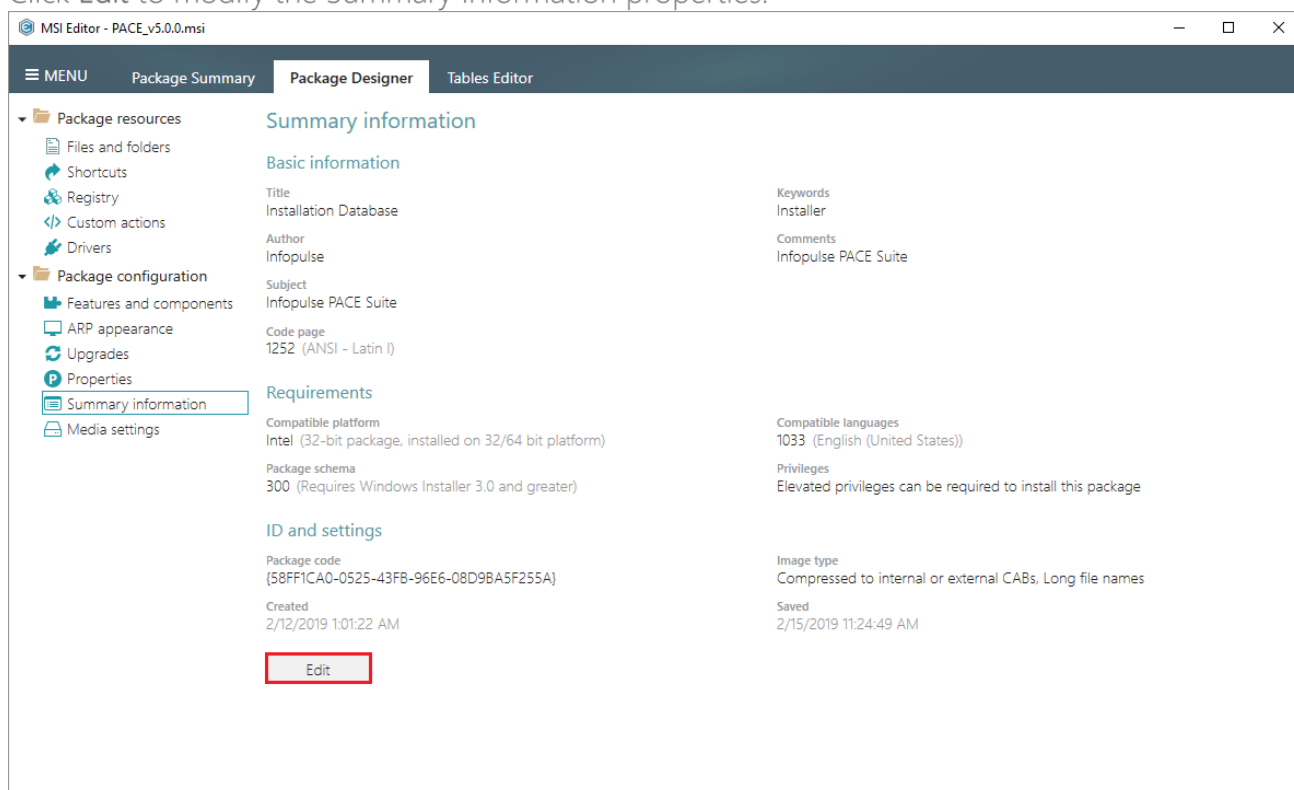
3.7.13 Summary Information

Edit the Summary Information properties of the opened MSI package or applied MST file.

- Go to the Package Designer -> Summary Information tab.




- Click Edit to modify the Summary Information properties.



- Update the necessary values such as title, author, compatible platform, package schema and the like. Afterwards, click Save.

NOTE If you need to change a compression type for files, instead of editing the Image type, go to the Package Designer -> Media settings tab, described in section 3.7.4.4

 Summary information

✕

Basic information

Title

Installation Database

Keywords

Installer

Author

Infopulse

Comments

Infopulse PACE Suite

Subject

Infopulse PACE Suite

Code page

1252 (ANSI - Latin I) ▾

Requirements

Compatible platform

Intel (32-bit package, installed on 32/64 ▾)

Compatible languages

1033 ▾

Package schema

300 (Requires Windows Installer 3.0 and c ▾)

Privileges

Elevated privileges can be required to in: ▾

ID and settings

Package code

{58FF1CA0-0525-43FB-96E6-08D9BA5F255A}

New

Image type

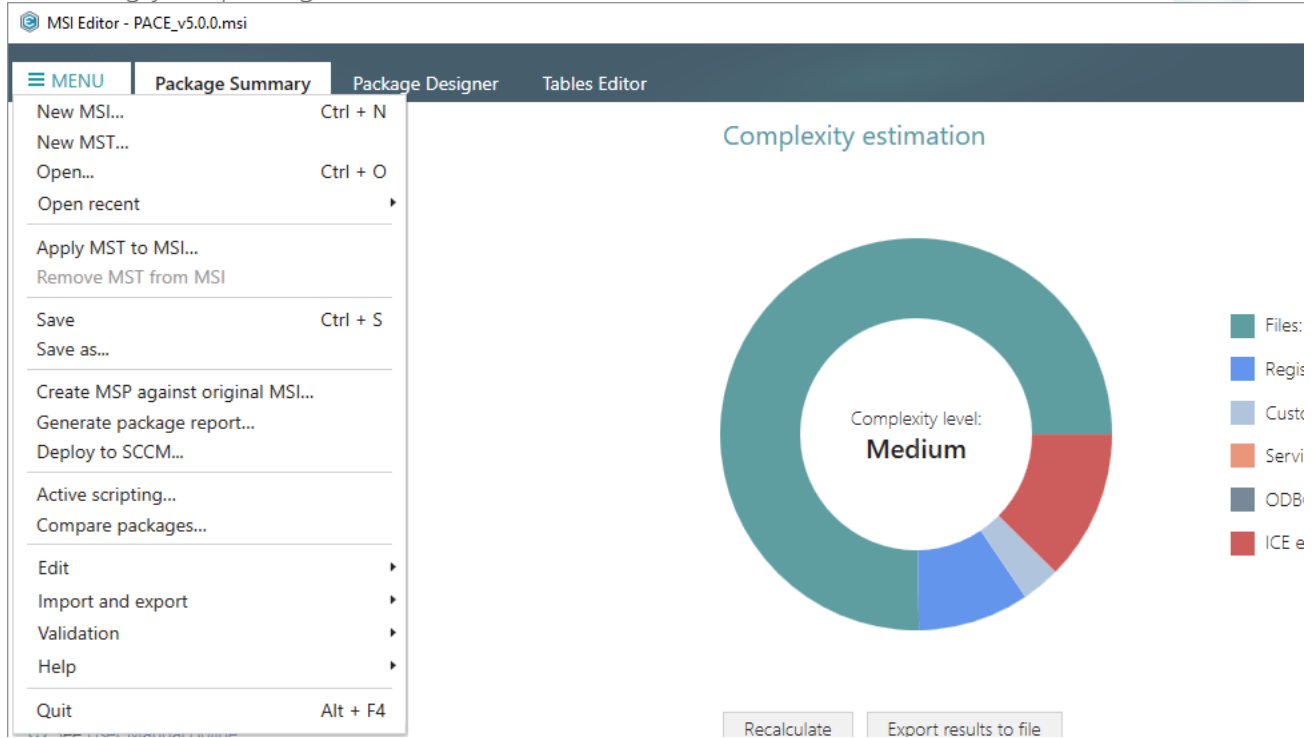
Compressed to internal or external CABs, Long file names ▾

NOTE Image type indicates where package files are located. For changing actual compression type for files, go to the Media settings tab.

Save

Cancel

- For saving your package, select Save from the MENU.



3.7.14 Tables

Choose a scenario that better suits your needs:

- **Add Tables**, described in section 3.7.14.1
Add the standard MSI tables to the package.
- **Drop Table**, described in section 3.7.14.2
Drop tables from the package controlling which of linked resources also will be removed.
- **Import Tables (IDT)**, described in section 3.7.14.3
Import standard or custom tables with or without content from the IDT files.

3.7.14.1 Add Tables

Add the standard MSI tables to the package.

- Go to the **Tables Editor** tab.

The screenshot shows the 'MSI Editor - PACE_v5.0.0.msi' application window. The 'Tables Editor' tab is active, displaying a list of tables on the left and a detailed view of the 'AppvAssotiation' table in the center. The table has columns for Component, ComponentId, Directory_, Attributes, and Condition. Below the table, there are checkboxes for 'Hide empty tables' and 'Enable linked items tracking for delete/update operations'. At the bottom, there is a 'Row references' section showing a list of references with columns for State, Table, Row Key, and Description.

Component	ComponentId	Directory_	Attributes	Condition
AppvAssotiation	{0DBF1C87-52CF-44E0-81B4-267741BBABE9}	TARGETDIR	0	INSTALLAPVASSOTIATION
cmp0190D5867C7DC2C3FD0170FEE49C528A	{C17C34B2-BFAC-4934-915B-85A0A56FC2DD}	MSIGENERATORROOT	0	<null>
cmp0194E3097F77CAB8A1909D06CAB9C445	{282E02EB-4203-4E3C-8189-53E0D68CCD98}	MSIEDITORROOT	0	<null>
cmp01E6309A9129F556BE87AC1E2C863933	{FBC59911-4F1A-4281-A311-27365F27185C}	dirEFA2C0FFA64DFE12D8CE212895E005C8	0	<null>
cmp021709891F51CEA8D966EA361CBAC605	{DEA79328-A389-42A6-A7AD-B4883890840D}	MSIEDITORROOT	0	<null>
cmp02C53EC8E88056356EBBC7BF7E0A6804	{F41CF8D4-2DA0-4F52-877B-2984F038360E}	MSIEDITORROOT	0	<null>
cmp03C135474D5E458896E8AB0AE71487D0	{E76E43B7-CAE7-45FB-AFED-C4EB3D97BF6E}	MSIEDITORROOT	0	<null>
cmp03CF47FBCA227E610AE74C151CF10DC3	{4F992149-F97F-4FC7-ABD5-7F04F9D4A798}	MSIEDITORROOT	0	<null>
cmp048AC21F863D4133A445EA42DC2080D9	{F0533FD5-4E59-43FE-937D-2D8A03F0D88A}	MSIEDITORROOT	0	<null>
cmp04CA7A47B54888B7FAD013D7298B7A1D	{F49F8023-C415-4C04-BB1F-5DC97CD77EEB}	dir33F15391917AF44495354A87548BF33E	0	<null>
cmp04E8832C7517C8084E2FED1A6736D42F	{B7C01448-C0B1-4FBF-8E72-C051A364EBAD}	MSIEDITORROOT	0	<null>
cmp06688A5A7452DE33957A30532F659B23	{A538878C-B279-49C1-9192-D239E059E0CE}	MSIGENERATORROOT	0	<null>
cmp09F7AC2A2FF723969F8012AC52E69803	{947D58C5-3623-4806-B21B-388B13672BFD}	MSIEDITORROOT	0	<null>
cmp0AD5B58486F0407826081628CD86768A	{F4983A24-03A5-4CCC-9F9E-C813058DA477}	dirC0916089B8F98B808ADF683C5CCF0862	0	<null>
cmp0B7757366D7F60B8BF5DB57F5190E030	{71569ABA-7422-4C58-9E48-4AAC16216ADA}	dirD0D367A0F19DB5E0F041F02F2E2977E5	0	<null>
cmp0E3A2609687317162A8B75282155241B	{8E1AC0DD-8A66-4A4D-A79E-A1F90E01782}	MSIEDITORROOT	0	<null>

Selected rows: 1 / Total rows: 425

State	Table	Row Key	Description
→	Directory	TARGETDIR	Component.Directory_ => Directory.Directory
←	FeatureComponents	MsGeneratorAppvAssotiation	Component.Component => FeatureComponents.Component_
←	Registry	reg0D34210A9953A9AB34DD09F984613C6	Component.Component => Registry.Component_
←	Registry	reg77A2B1EB13EC0E02D7EA99B1B19B66E2	Component.Component => Registry.Component_
←	Registry	reg8DFDD24915DC8BDBA192DD16686CD242	Component.Component => Registry.Component_
←	Registry	reg9CAF18686DD8B18206E8AD2DE53FC7D	Component.Component => Registry.Component_

- Select Add tables from the context menu of any table.

MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer **Tables Editor**

Tables: AppvAssociation

Component	ComponentId	Directory_	Attributes	Condition
AppvAssociation	{0DBF1C87-52CF-44E0-B1B4-267741BBABE9}	TARGETDIR	0	INSTALLAPPIVASSOCIATION
cmp0190D5B67C7DC2C5FD0170EE49C528A	{C17C34B2-BFAC-4934-9158-85A0A56FC2DD}	MSIGENERATORROOT	0	<null>
cmp0194E309777CAB8A1909D06CAB9C445	{282E02EB-4203-4E3C-8189-53E0D68CCD98}	MSIEDITORROOT	0	<null>
cmp01E6309A9129F556BE87AC1E2C863933	{FBC59911-4F1A-4281-A311-27365F27185C}	dirEFA2C0FFA64DFE12D8CE212B95E005C8	0	<null>
cmp021709891F51CEA8D966EA361CBAC605	{DEA79328-A3B9-42A6-A7AD-B4883890840D}	MSIEDITORROOT	0	<null>
cmp02C53EC8E88056356E8BC78F7E0A6804	{F41CF8D4-2DA0-4F52-877B-2984F038360E}	MSIEDITORROOT	0	<null>
cmp03C135474D5E45B896E8AB0AE714B7D0	{E76E43B7-CAE7-45F8-AFED-C4E85D978F6E}	MSIEDITORROOT	0	<null>
cmp03CF47FBCA227E610AE74C151CF10DC3	{4F992149-F97F-4FC7-ABD5-7F04F9D4A798}	MSIEDITORROOT	0	<null>
cmp048AC21F863D4133A445EA42DC2080D9	{F0533FD5-4E59-43FE-937D-2D8A03F0D88A}	MSIEDITORROOT	0	<null>
cmp04CA7A47B5488887FAD013D729887A1D	{F49F8023-C415-4C04-BB1F-5DC97CD77EEB}	dir33F15391917AF44495354A875488F33E	0	<null>
cmp04E8832C7517C8084E2FED1A6736242F	{B7C01448-C0B1-4FBF-8E72-C051A364EBAD}	MSIEDITORROOT	0	<null>
cmp06688A5A7452DE33957A30532F659B23	{A538878C-B279-49C1-9192-D239E059E0CE}	MSIGENERATORROOT	0	<null>
cmp09F7AC2A2FF723969F8012AC52E69803	{947D58C5-3623-4806-B21B-388B13672BFD}	MSIEDITORROOT	0	<null>
cmp0AD5B58486F0407826081628CD86768A	{F4983A24-03A5-4CCC-9F9E-C813058DA477}	dirC09160898BF988B08ADF683C5CCF0B62	0	<null>
cmp0B775366D7F60B8BF5DB575190E030	{71569ABA-7422-4C58-9E48-4AAC16216ADA}	dirD0D367A0F19DB5E0F041F02F2E297E5	0	<null>
cmp0E3A2609687317162A8B752B2155241B	{8E1AC0DD-8A66-4A4D-A79E-A1F980E01782}	MSIEDITORROOT	0	<null>

Hide empty tables ☒ Enable linked items tracking for delete/update operations ☒

Selected rows: 1 / Total rows: 425

Row references ICE validation Undo/Redo history

State	Table	Row Key	Description
→	Directory	TARGETDIR	Component.Directory_ => Directory.Directory
←	FeatureComponents	MsGeneratorAppvAssociation	Component.Component => FeatureComponents.Component_
←	Registry	reg0D34210A9953A9AB3ADD09F984613C6	Component.Component => Registry.Component_
←	Registry	reg77A2B1E13EC0E02D7EA9981B1986E62	Component.Component => Registry.Component_
←	Registry	reg8DFDD24915DC8BDBA192DD16686CD242	Component.Component => Registry.Component_
←	Registry	reg9CAF1B686DD8B118206E8AD2DE53FC7D	Component.Component => Registry.Component_

- Select tables from the Available tables list, which you want to add to the package, click Add and Save.

NOTE The list displays only those standard tables, which do not exist in the package.

Add and drop tables

Current MSI database

- ☐ Select all/none
- ☐ AdminExecuteSequence
- ☐ AdminUISequence
- ☐ AdvtExecuteSequence
- ☐ AppSearch
- ☐ Binary
- ☐ CheckBox
- ☐ Component
- ☐ Control
- ☐ ControlCondition
- ☐ ControlEvent
- ☐ CustomAction
- ☐ Dialog

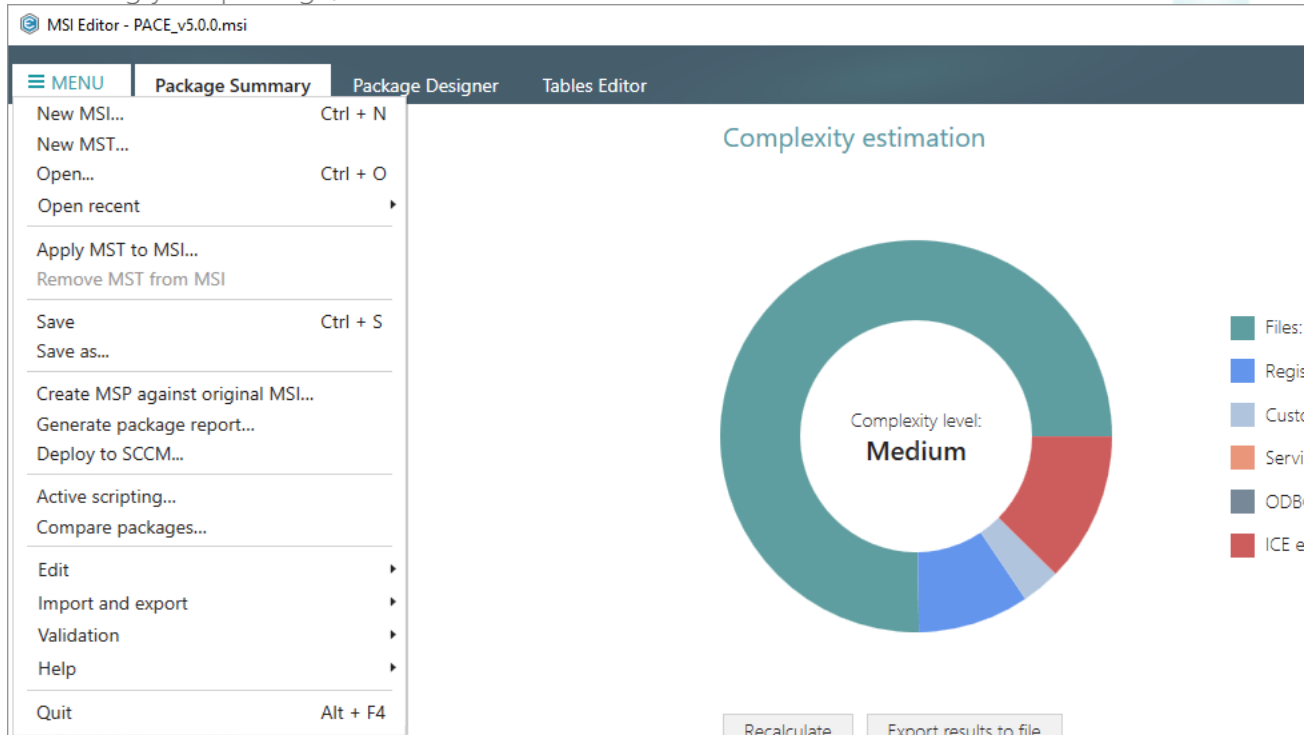
Available tables

- ☐ Select all/none
- ☐ ActionText
- ☐ AdvtUISequence
- ☒ Appld
- ☒ BBControl
- ☒ Billboard
- ☐ BindImage
- ☐ CCPSearch
- ☒ Class
- ☐ ComboBox
- ☒ CompLocator
- ☐ Compluss
- ☐ Condition

Add Remove

Save Cancel

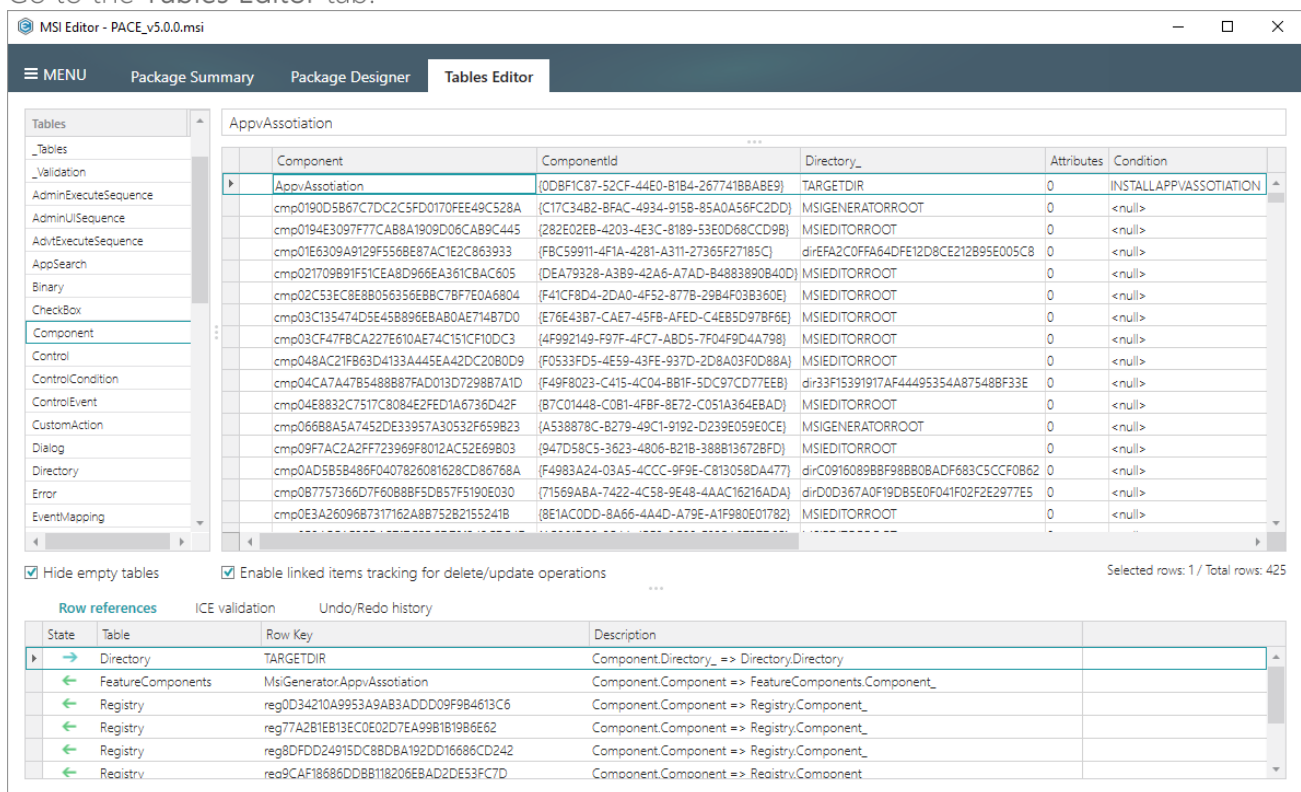
- For saving your package, select Save from the MENU.



3.7.14.2 Drop Table

Drop tables from the package controlling which of linked resources also will be removed.

- Go to the Tables Editor tab.



- Select Drop table from the context menu of a table, which you want to remove.

NOTE The read-only system tables could not be removed.

MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer **Tables Editor**

Tables

AppvAssotiation

Component	ComponentId	Directory	Attributes	Condition
AppvAssotiation	{0DBF1C87-52CF-44E0-B1B4-2677418B8BE9}	TARGETDIR	0	INSTALLAPPVASSOTIATION
cmp0190D5867C7DC2C5FD0170FEE49C528A	{C17C34B2-BFAC-4934-915B-85A0A56FC2DD}	MSISGENERATORROOT	0	<null>
cmp0194E3097F77CAB8A1909D06CAB9C445	{282E02EB-4203-4E3C-8189-53E0D68CCD9B}	MSIEDITORROOT	0	<null>
cmp01E6309A9129F556BE87AC1E2C863933	{FBC59911-4F1A-4281-A311-27365F27185C}	dirEFA2C0FFA64DFE12D8CE212895E005C8	0	<null>
cmp021709B91F51CEA8D966EA361CBAC605	{DEA79328-A3B9-42A6-A7AD-B4883890840D}	MSIEDITORROOT	0	<null>
cmp02C53EC8E8056356E8BC7BF7E0A6804	{F41CF8D4-2DA0-4F52-877B-2984F038360E}	MSIEDITORROOT	0	<null>
cmp03C135474D5E458B96E8AB0AE714B7D0	{E76E43B7-CAE7-45FB-AFED-C4E85D978F6E}	MSIEDITORROOT	0	<null>
cmp03CF47FBCA227E610AE74C151CF10DC3	{4F992149-F97F-4FC7-ABD5-7F04F9D4A798}	MSIEDITORROOT	0	<null>
cmp048AC21F863D4133A445EA42DC2080D9	{F0533FD5-4E59-43FE-937D-2D8A03F0D88A}	MSIEDITORROOT	0	<null>
cmp04CA7A47B54888B7AD013D7298B7A1D	{F49F8023-C415-4C04-BB1F-5DC97CD77EEB}	dir33F15391917AF44495354A875488F33E	0	<null>
cmp04E8832C7517C8084E2FED1A6736D42F	{B7C01448-C0B1-4FBF-8E72-C051A364EBAD}	MSIEDITORROOT	0	<null>
cmp06688A5A7452DE33957A30532F659B23	{A538878C-B279-49C1-9192-D239E059E0CE}	MSISGENERATORROOT	0	<null>
cmp0977AC2A2FF723969F8012AC52E69803	{947D58C5-3623-4806-B21B-388B13672BFD}	MSIEDITORROOT	0	<null>
cmp0AD5858486F0407826081628CD86768A	{F4983A24-03A5-ACCC-9F9E-C813058DA477}	dirC09160898B98B808ADF683C5CCF0862	0	<null>
cmp0B7757366D7F60B8BF5DB57F5190E030	{71569ABA-7422-4C58-9E48-4AAC16216ADA}	dirD0D367A0F19DB5E0F041F02F2E2977E5	0	<null>
cmp0E3A26096B7317162A8B752B2155241B	{8E1AC0DD-8A66-4A4D-A79E-A1F980E01782}	MSIEDITORROOT	0	<null>

Hide empty tables ☒ Enable linked items tracking for delete/update operations ☒

Selected rows: 1 / Total rows: 425

Row references ICE validation Undo/Redo history

State	Table	Row Key	Description
→	Directory	TARGETDIR	Component.Directory => Directory.Directory
←	FeatureComponents	MsiGenerator.AppvAssotiation	Component.Component => FeatureComponents.Component_
←	Registry	reg0D34210A9953A9AB3ADD09F984613C6	Component.Component => Registry.Component_
←	Registry	reg77A2B1E813EC0E02D7EA99B1B1986E62	Component.Component => Registry.Component_
←	Registry	reg80FDD24915DC8BDBA192DD16686CD242	Component.Component => Registry.Component_
←	Registry	reg9CAF18686DD8B118206E8AD2DE53FC7D	Component.Component => Registry.Component_

- In case other non-empty tables refer to the selected table, you will get a complete list of all linked items, which will be affected by the removed tables. By default, all linked items will be removed along with the selected table in order to support the MSI database integrity constraints. If needed, untick those linked items, which you do not want to remove and click OK to continue.

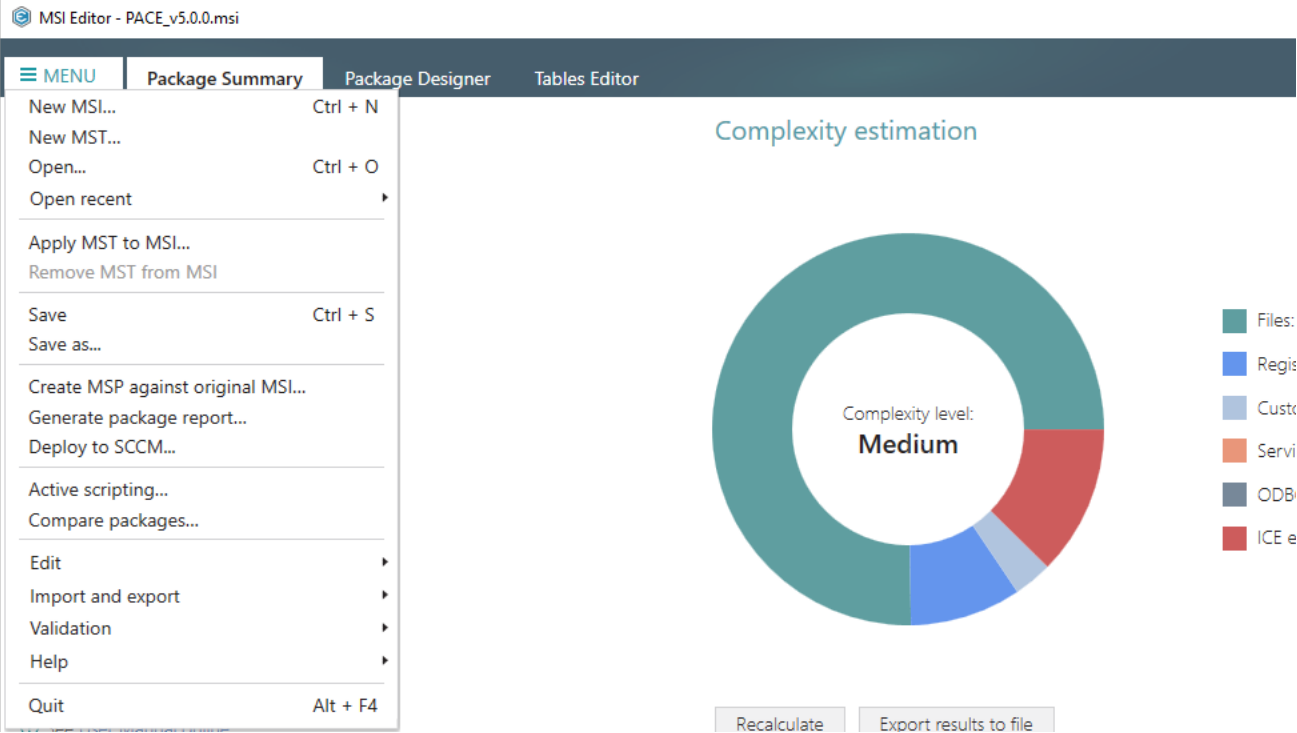
Linked items

To support the MSI database integrity constraints, the following linked items will be updated or deleted

Select

- ☒ Component - NDP462KB3151802Web.exe
 - ☒ File - NDP462KB3151802Web.exe
 - ☒ CustomAction - InstallDotNetVersion
 - ☒ InstallExecuteSequence - InstallDotNetVersion
 - ☒ FeatureComponents - NDP462.NDP462KB3151802Web.exe
 - ☒ Component - releasenotes.pdf
 - ☒ File - releasenotes.pdf
 - ☒ MsiFileHash - releasenotes.pdf
 - ☒ Shortcut - releasenotes
 - ☒ FeatureComponents - PaceManual.releasenotes.pdf
 - ☒ Component - releasenotes.xps
 - ☒ File - releasenotes.xps
 - ☒ MsiFileHash - releasenotes.xps
 - ☒ FeatureComponents - PaceManual.releasenotes.xps
 - ☒ Component - EULA.rtf
 - ☒ File - EULA.rtf

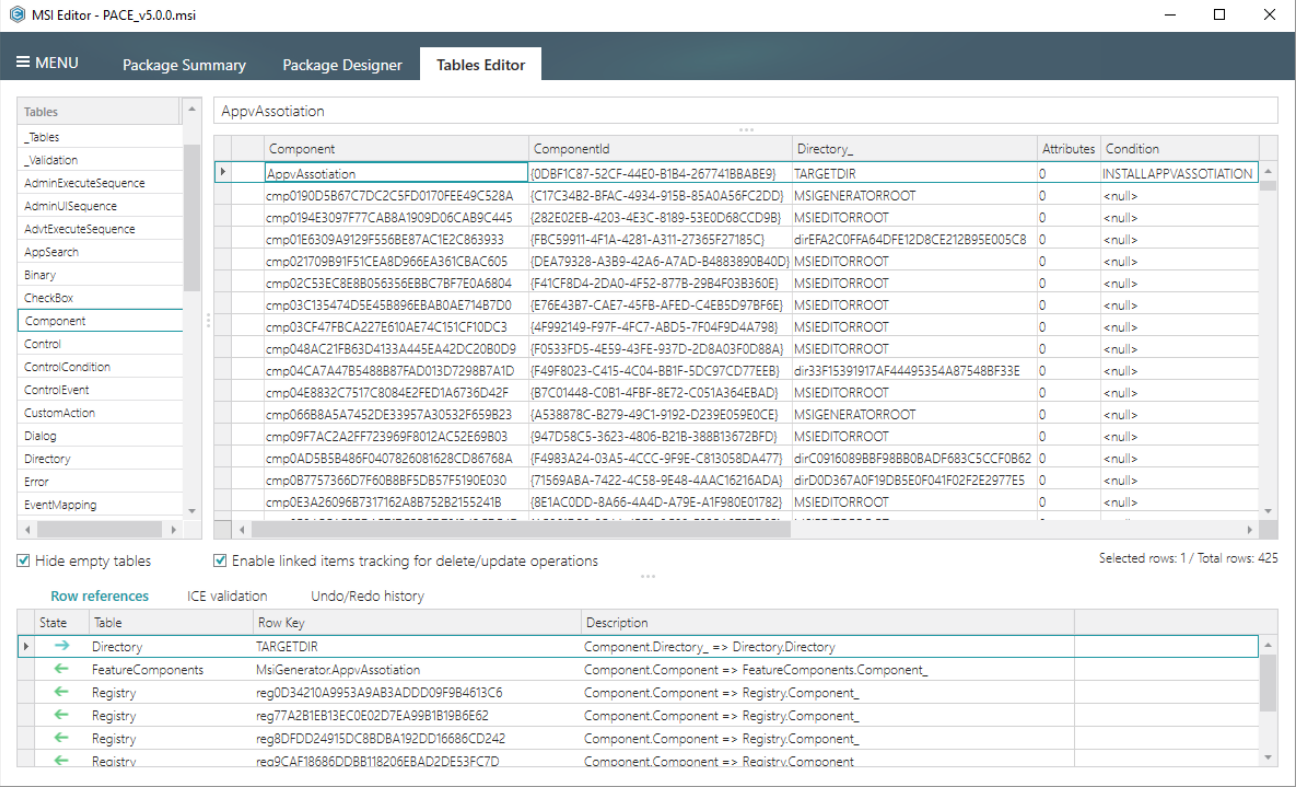
- For saving your package, select Save from the MENU.



3.7.14.3 Import Tables (IDT)

Import standard or custom tables with or without content from the IDT files.

- Go to the Tables Editor tab.



- Select Import tables from the context menu of any table.

MSI Editor - PACE_v5.0.0.msi

Package Designer | **Tables Editor**

Tables: AppvAssotiation

Component	ComponentId	Directory_	Attributes	Condition
AppvAssotiation	{0DBF1C87-52CF-44E0-B1B4-267741BBABE9}	TARGETDIR	0	INSTALLAPPIVASSOTIATION
cmp0190D5B67C7DC2C5FD0170EE49C528A	{C17C34B2-BFAC-4934-9158-85A0A56FC2DD}	MSIGENERATORROOT	0	<null>
cmp0194E309777CAB8A1909D06CAB9C445	{282E02EB-4203-4E3C-8189-53E0D68CCD98}	MSIEDITORROOT	0	<null>
cmp01E6309A9129F556BE87AC1E2C863933	{FBC59911-4F1A-4281-A311-27365F27185C}	dirEFA2C0FFA64DFE12D8CE212B95E005C8	0	<null>
cmp021709891F51CEA8D966EA361CBAC605	{DEA79328-A3B9-42A6-A7AD-B4883890840D}	MSIEDITORROOT	0	<null>
cmp02C53EC8E88056356E8BC78F7E0A6804	{F41CF8D4-2DA0-4F52-877B-2984F038360E}	MSIEDITORROOT	0	<null>
cmp03C135474D5E458896E8A80AE71487D0	{E76E43B7-CAE7-45FB-AFED-C4E85D978F6E}	MSIEDITORROOT	0	<null>
cmp03CF47FBCA227E610AE74C151CF10DC3	{4F992149-F97F-4FC7-ABD5-7F04F9D4A798}	MSIEDITORROOT	0	<null>
cmp048AC21F863D4133A445EA42DC2080D9	{F0533FD5-4E59-43FE-937D-2D8A03F0D88A}	MSIEDITORROOT	0	<null>
cmp04CA7A47B5488887FAD013D729887A1D	{F49F8023-C415-4C04-BB1F-5DC97CD77EEB}	dir33F5391917AF44495354A875488F33E	0	<null>
cmp04E8832C7517C8084E2FED1A6736D42F	{B7C01448-C0B1-4FB8-8E72-C051A364EBAD}	MSIEDITORROOT	0	<null>
cmp06688A5A7452DE33957A30532F659823	{A538878C-8279-49C1-9192-D239E059E0CE}	MSIGENERATORROOT	0	<null>
cmp09F7AC2A2FF723969F8012AC52E69803	{947D58C5-3623-4806-821B-388813672BFD}	MSIEDITORROOT	0	<null>
cmp0AD5B58486F0407826081628CD86768A	{F4983A24-03A5-4CCC-9F9E-C813058DA477}	dirC09160898BF988B08ADF683C5CCF0B62	0	<null>
cmp087757366D7F6088BF5DB57F5190E030	{71569ABA-7422-4C58-9E48-4AAC16216ADA}	dirD0D367A0F19DB5E0F041F02F2E297E5	0	<null>
cmp0E3A2609687317162A8B752B2155241B	{8E1AC0DD-A866-4A4D-A79E-A1F980E01782}	MSIEDITORROOT	0	<null>

Hide empty tables ☒ Enable linked items tracking for delete/update operations ☒

Selected rows: 1 / Total rows: 425

State	Table	Row Key	Description
→	Directory	TARGETDIR	Component.Directory_ => Directory.Directory
←	FeatureComponents	MsGeneratorAppvAssotiation	Component.Component => FeatureComponents.Component_
←	Registry	reg0D34210A9953A9AB3ADD09F984613C6	Component.Component => Registry.Component_
←	Registry	reg77A2B1E813EC0E02D7EA9981B19B6E62	Component.Component => Registry.Component_
←	Registry	reg8DFDD24915DC8BDBA192DD16686CD242	Component.Component => Registry.Component_
←	Registry	reg9CAF1868DD8B118206E8AD2DE53FC7D	Component.Component => Registry.Component_

- Choose tables (*.idt), which you want to import and click Open.

Open

← → ↶ ↷ ⬇ This PC > Downloads Search Downloads

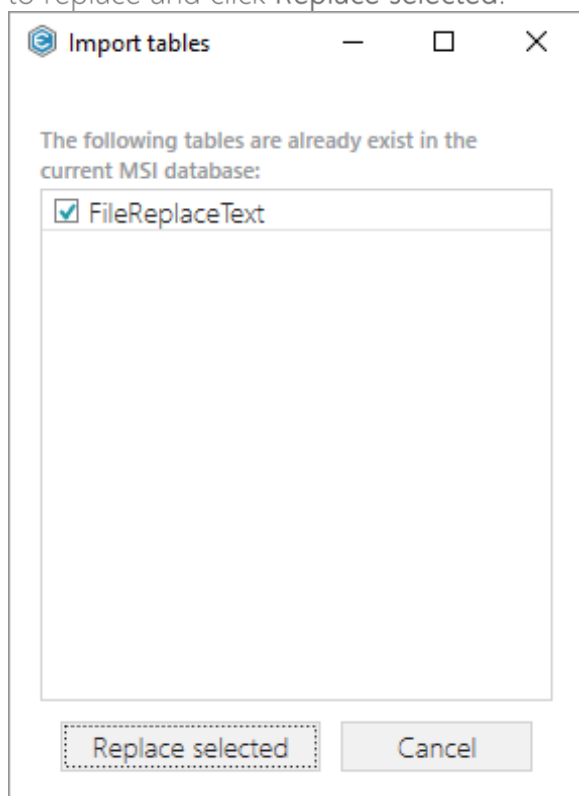
Organize New folder

Name	Date modified	Type	Size
FileReplaceText.idt	12/11/2018 11:53 ...	IDT File	1 KB

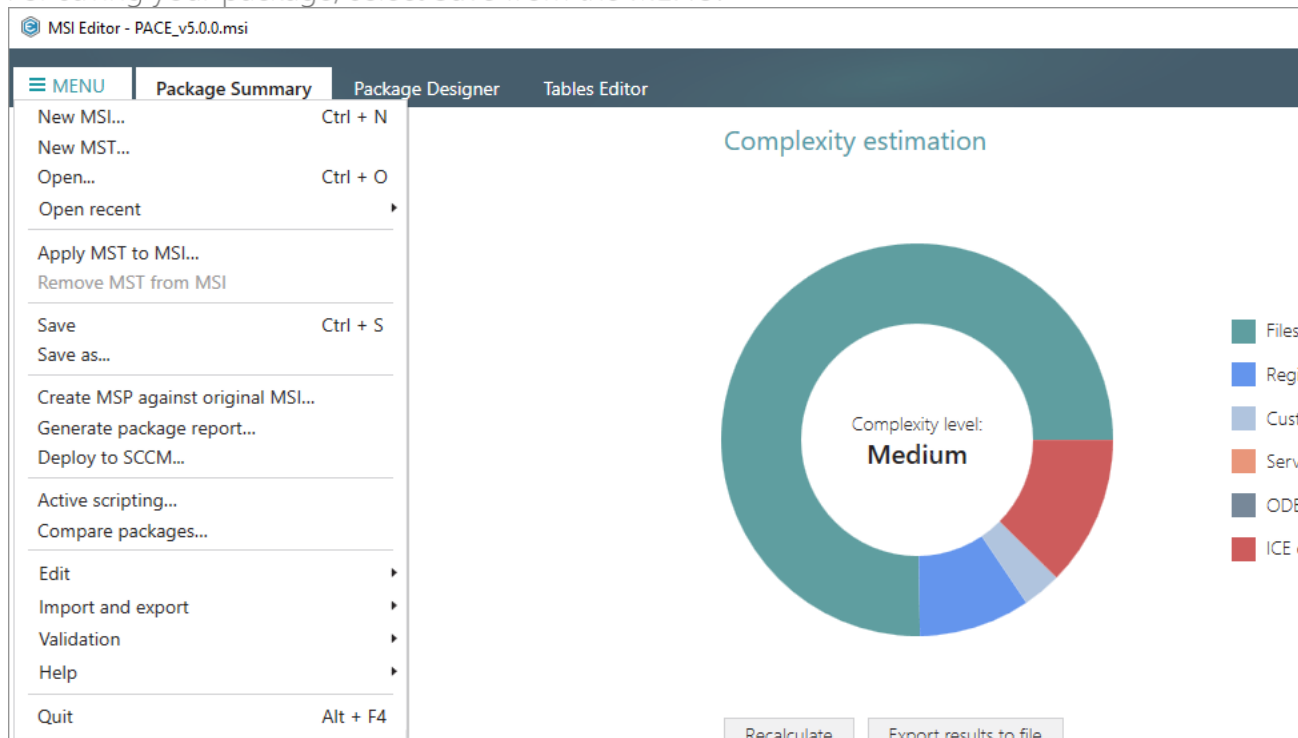
File name: FileReplaceText.idt Exported Windows Installer Dat

Open Cancel

- If the package already contains a table with the same name, you will be informed about this by the **Import tables** window. To replace the existing tables, tick tables from the list you want to replace and click **Replace selected**.



- For saving your package, select **Save** from the **MENU**.



3.7.15 Merge Modules

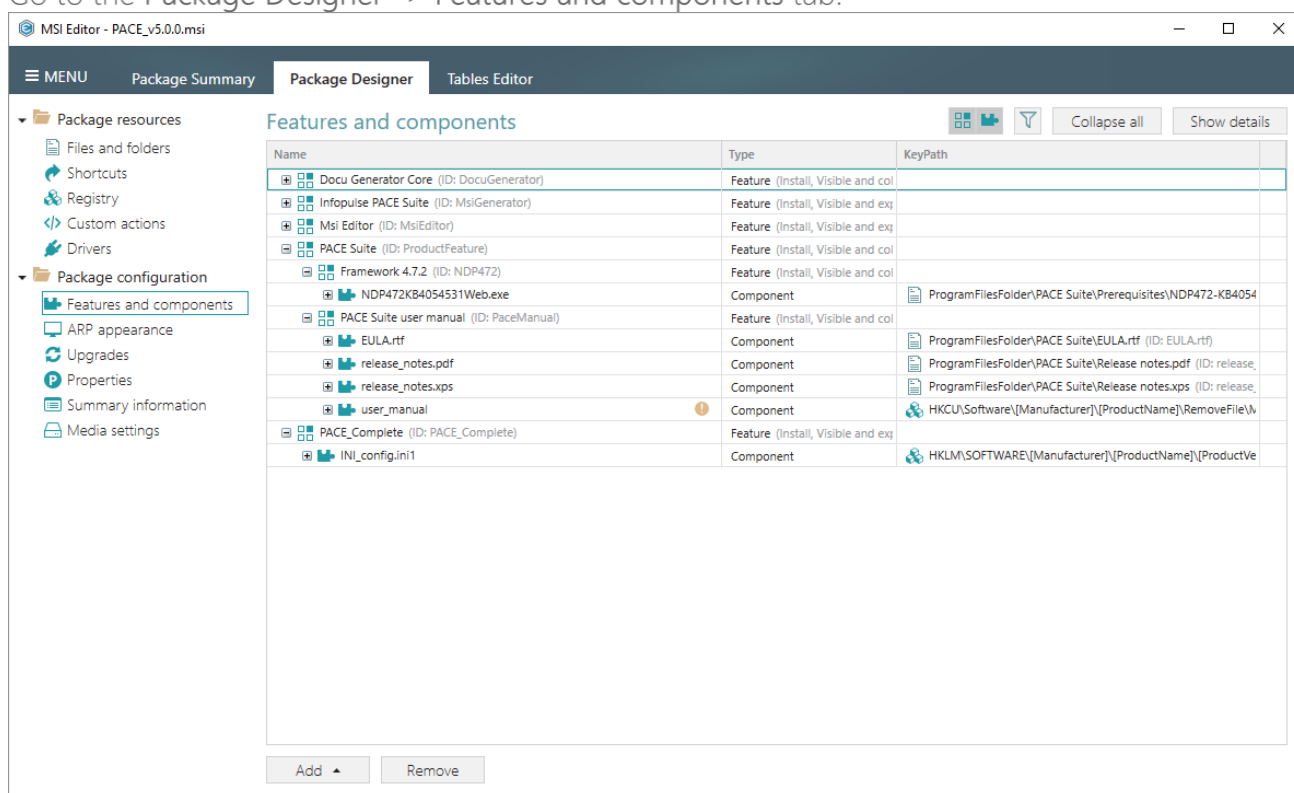
Choose a scenario that better suits your needs:

- **Create MSM**, described in section 3.7.15.1
Export component(s) from the opened MSI package to the new merge module (MSM).
- **Import MSM to Package**, described in section 3.7.15.2
Import merge modules (MSM) from the file system to the opened MSI package to deliver the shared resources properly.

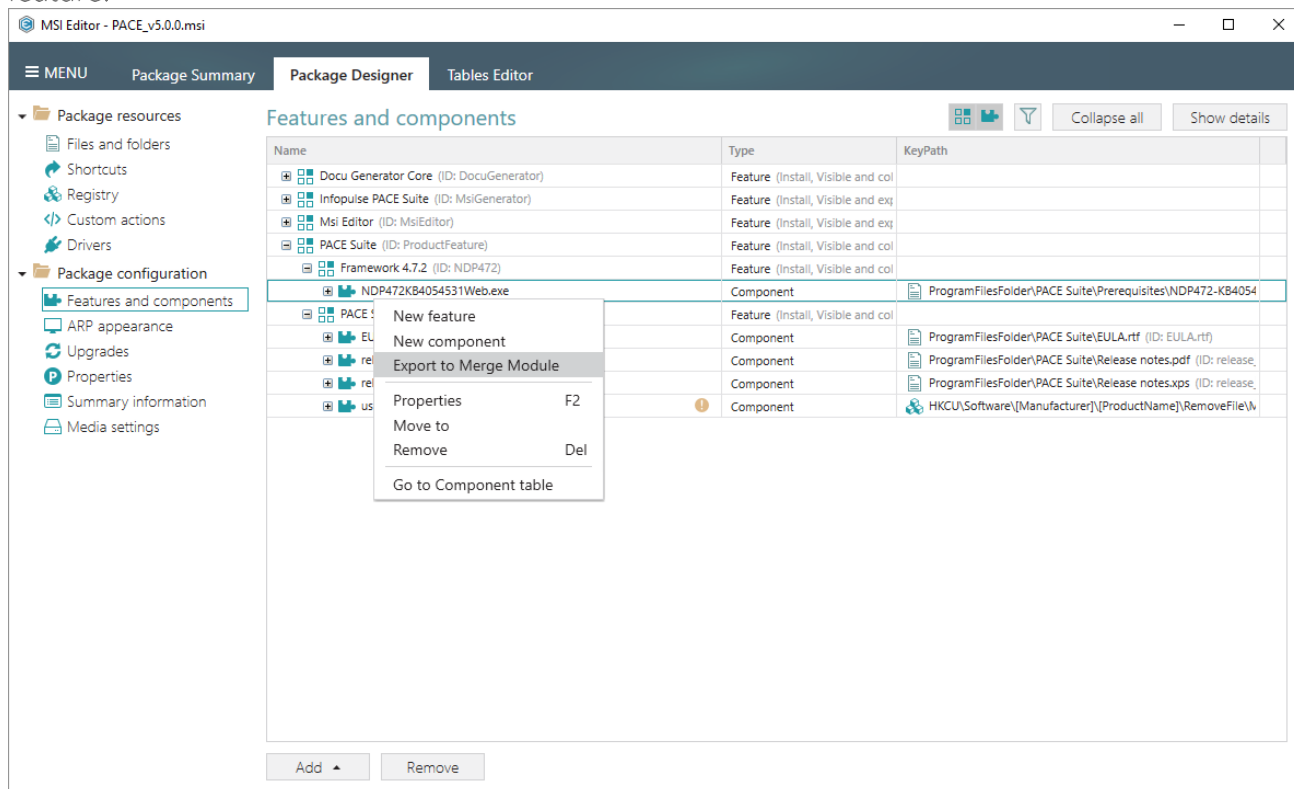
3.7.15.1 Create MSM

Export component(s) from the opened MSI package to the new merge module (MSM).

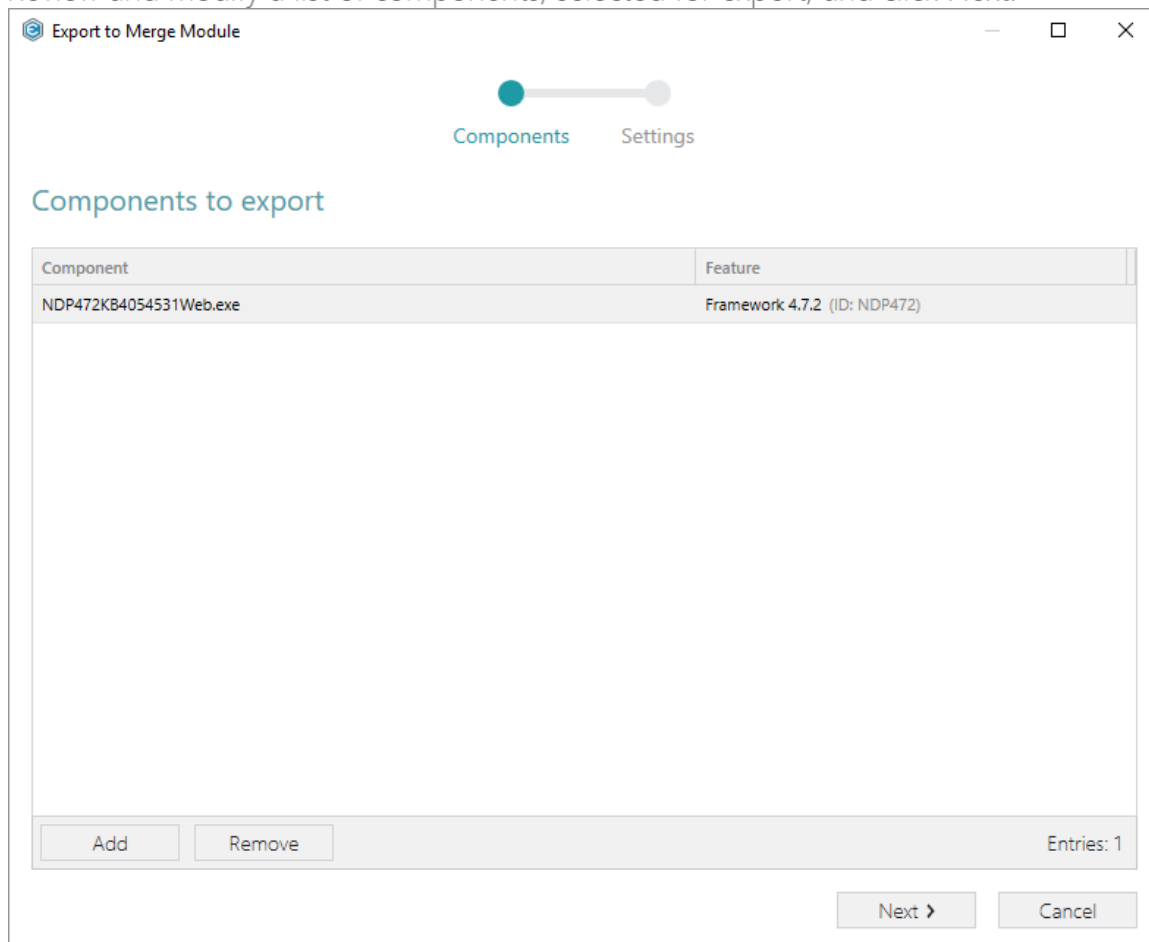
- Go to the Package Designer -> Features and components tab.



- Select **Export to Merge Module** from the context menu of a component, which you want to export to MSM, or from the context menu of a feature to export all components of this feature.

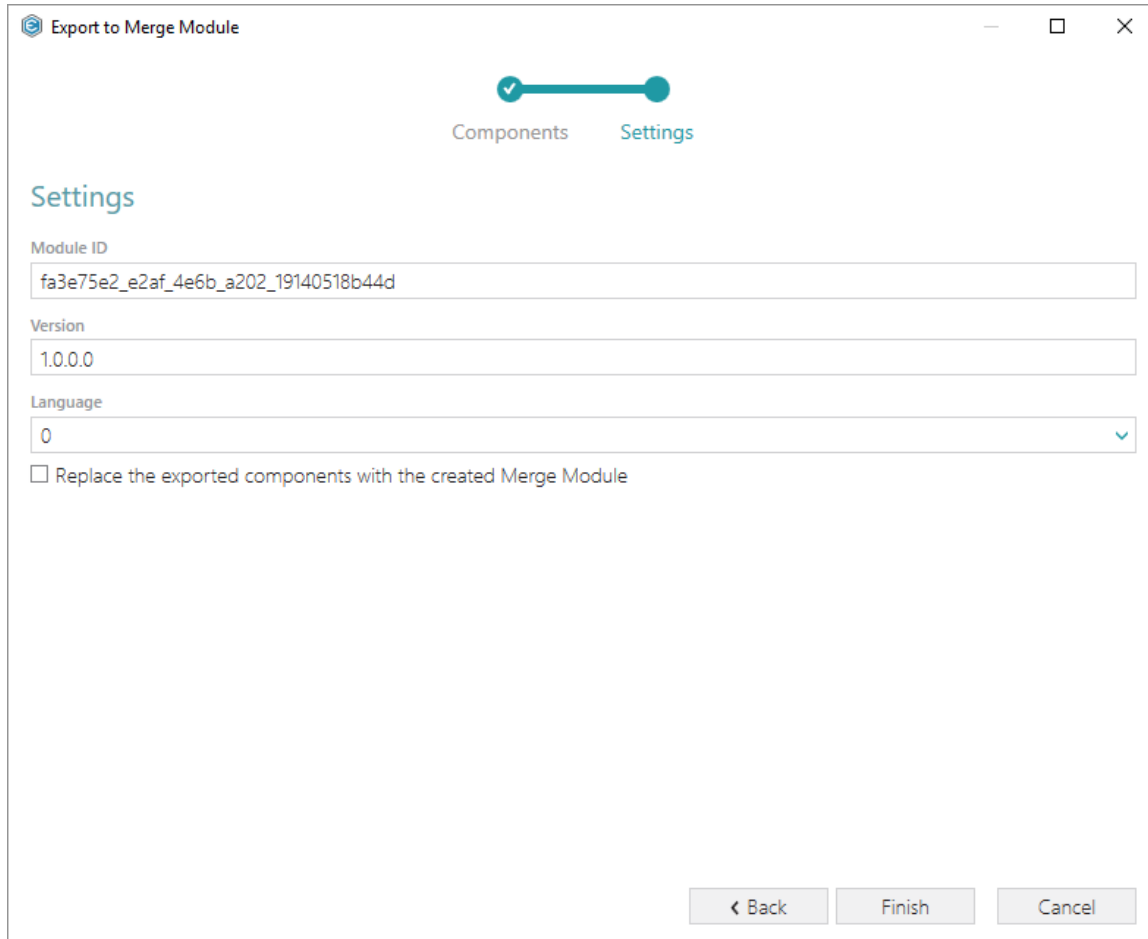


- Review and modify a list of components, selected for export, and click **Next**.



- If needed, update a new module ID, version and language. To replace the exported components of MSI package with the created MSM, select the respective option. Afterwards,

click Finish.

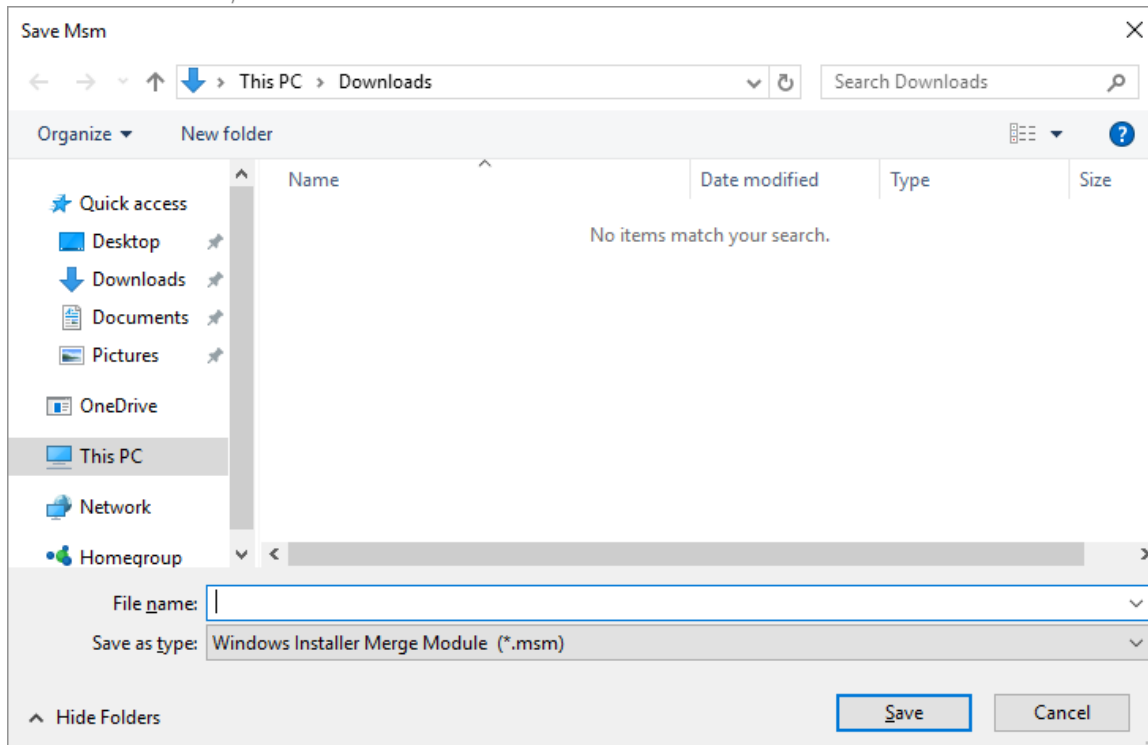


The 'Export to Merge Module' dialog box has a progress bar at the top with a checkmark on the left and a circle on the right. Below the progress bar are two tabs: 'Components' and 'Settings'. The 'Settings' tab is active, showing the following fields:

- Module ID:** A text box containing the value 'fa3e75e2_e2af_4e6b_a202_19140518b44d'.
- Version:** A text box containing the value '1.0.0.0'.
- Language:** A dropdown menu with '0' selected.
- Replace the exported components with the created Merge Module:** An unchecked checkbox.

At the bottom right, there are three buttons: '< Back', 'Finish', and 'Cancel'.

- Enter a file name, select a destination location and click Save.

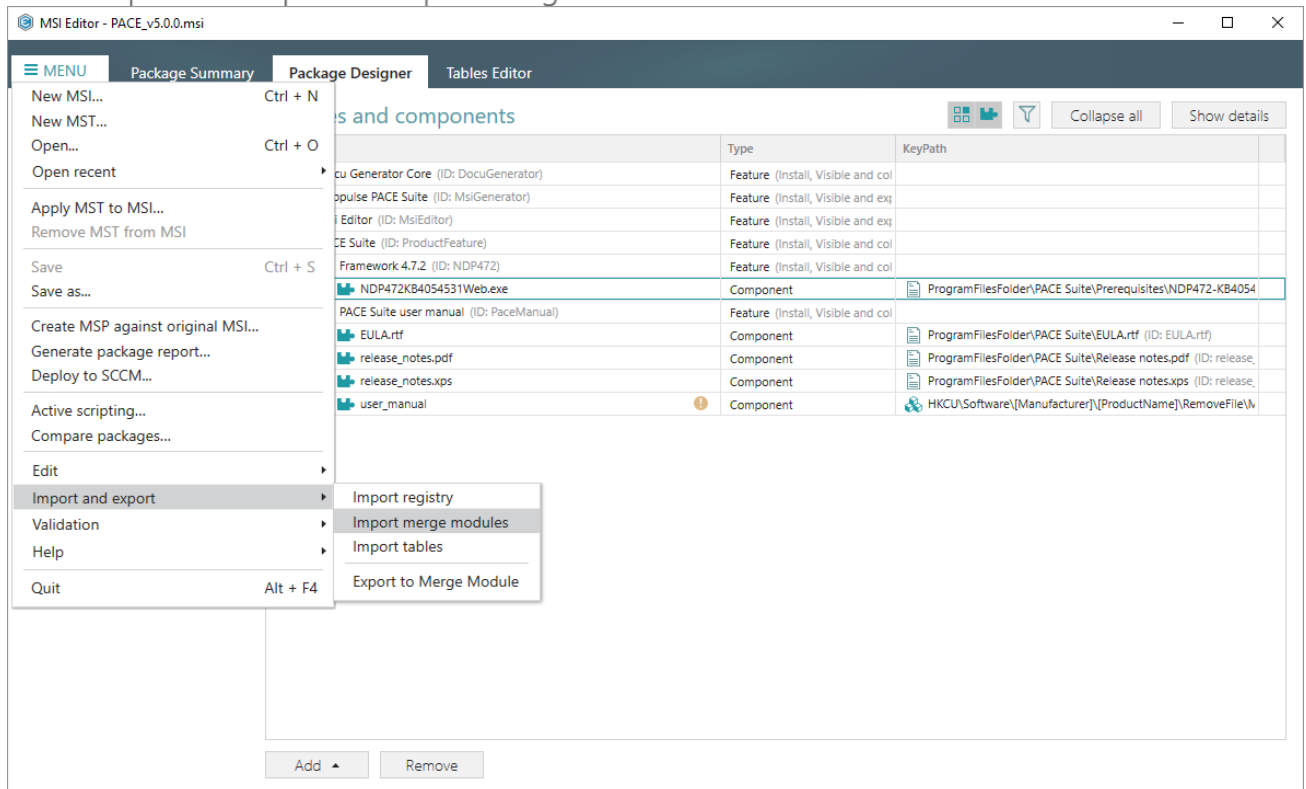


The 'Save Msm' dialog box shows the 'This PC > Downloads' location. The left sidebar lists 'Quick access' (Desktop, Downloads, Documents, Pictures) and 'This PC' (OneDrive, Network, Homegroup). The main area is empty with the message 'No items match your search.' Below the main area, there is a 'File name:' text box and a 'Save as type:' dropdown menu set to 'Windows Installer Merge Module (*.msm)'. At the bottom right, there are 'Save' and 'Cancel' buttons.

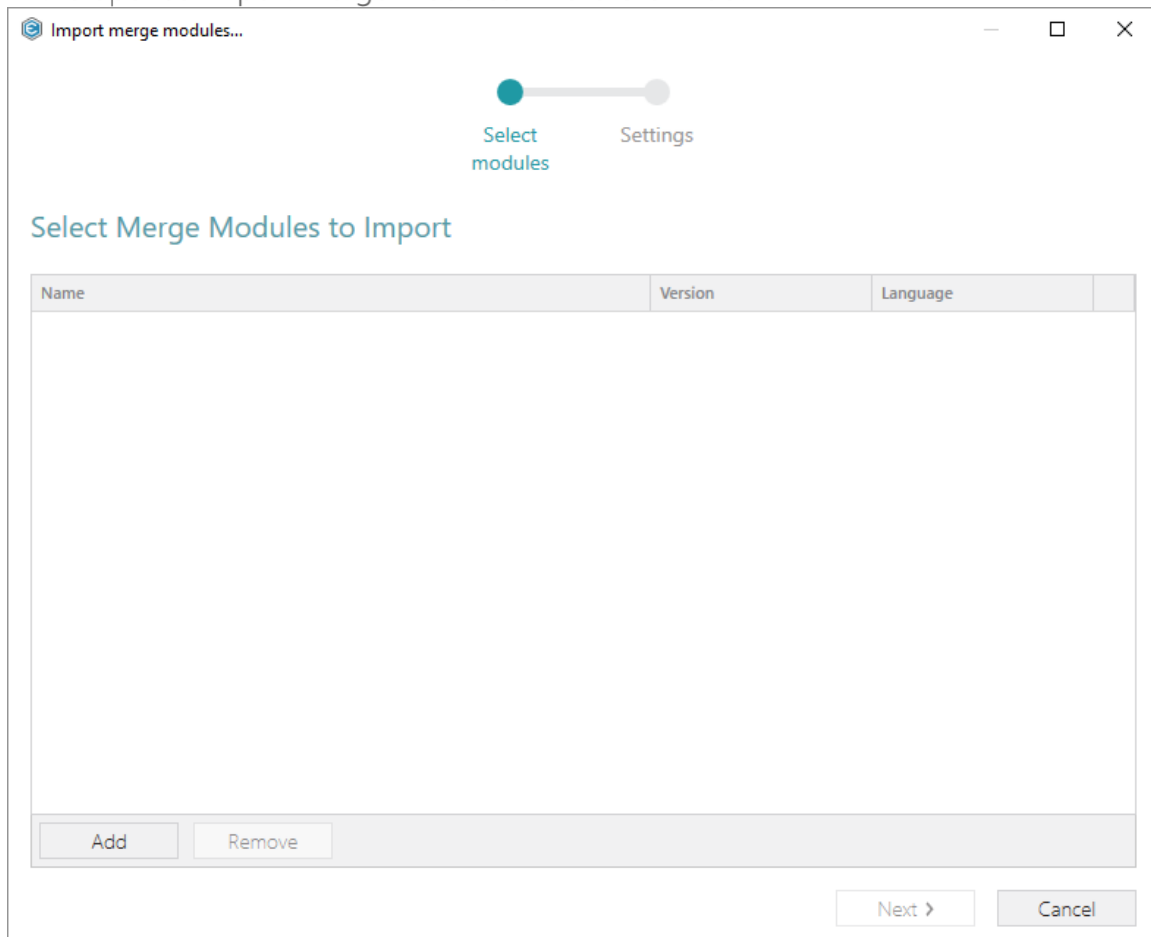
3.7.15.2 Import MSM to Package

Import merge modules (MSM) from the file system to the opened MSI package to deliver the shared resources properly.

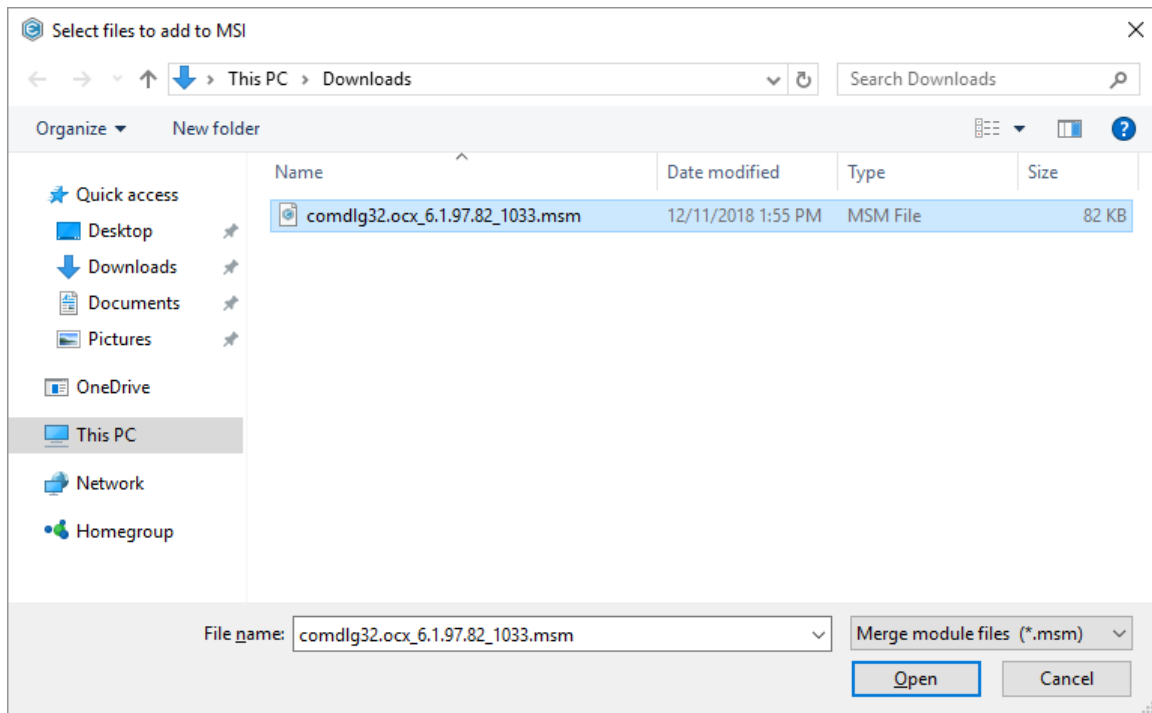
- Select Import and export -> Import merge modules from the MENU.



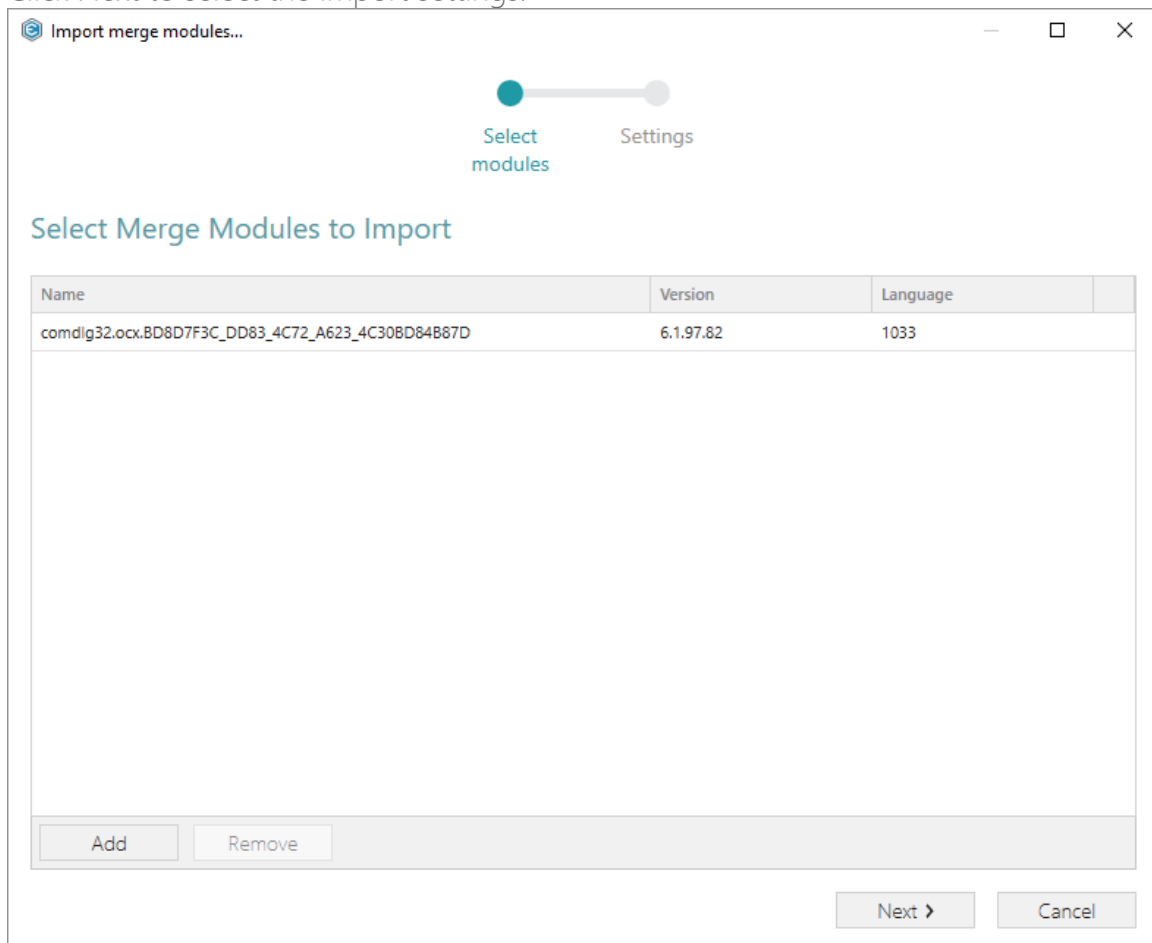
- In the opened Import merge modules wizard click Add.



- Choose merge modules (*.msm), which you want to import and click Open. More than one file could be selected at once.



- Click Next to select the import settings.



- Select a parent folder for the merge module resources from the **Root directory** field (in most cases this path is re-defined via the Custom action inside the MSM), feature from the **Primary feature** field, to which MSM components will be assigned, and compression type for the MSM files. Afterwards, click **Finish**.

The screenshot shows the 'Import merge modules...' dialog box with the 'Settings' tab selected. At the top, a progress bar indicates two steps: 'Select modules' (completed) and 'Settings' (current). The 'Settings' section includes three main configuration areas:

- Specify a directory where to add merge module resources:** The 'Root directory' field is set to 'TARGETDIR (TARGETDIR)', with a 'New folder...' button to its right.
- Select a feature to assign new merge module to:** The 'Primary feature' field is set to 'ProductFeature', with a 'New feature' button to its right.
- Select a module media destination:** The 'Media type' field is set to 'External CAB'.

At the bottom right, there are three buttons: 'Back', 'Finish' (highlighted with a dashed border), and 'Cancel'.

- If you have the unsaved changes, you will be asked what to do with them because the **Import merge modules** is an irreversible operation that resets whole undo/redo history. Select the necessary option and click **Apply**.

The screenshot shows the 'Unsaved changes...' dialog box. It contains the following text:

The Import Merge Module is an irreversible operation that resets the UNDO history

Choose an option that suits your needs better

There are two radio button options:

- ☒ Merge your unsaved changes with the changes, which will be made by the Import Merge Module function
- ☐ Save your unsaved changes to the MSI and then perform the Import Merge Module function

At the bottom, there are two buttons: 'Apply' and 'Cancel'.

- Find the resources from the imported merge modules on the Tables Editor tab, highlighted in green.

MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer **Tables Editor**

Tables

Columns

Streams

Tables

Validation

AdminExecuteSequence

AdminUISequence

AdminExecuteSequence

AppSearch

Binary

CheckBox

Class

Component

Control

ControlCondition

ControlEvent

CustomAction

Dialog

cmdlg32.ocx.BD8D7F3C_DD83_4C72_A623_4C30BD84B87D

Component	ComponentId	Directory_	Attributes	Condition
cmdlg32.ocx.BD8D7F3C_DD83_4C72_A623_4C30BD84B87D	{BD8D7F3C-DD83-4C72-A623-4C30BD84B87D}	SystemFolderBD8D7F3C_DD83_4C72_A6...	24	<null>
AppvAssociation	{0DBF1C87-52CF-44E0-81B4-2677418B4BE9}	TARGETDIR	0	INSTALLAPVASSOCIATION
cmp0190D5B67C7DC2C5FD0170FEE49C528A	{2E9850F9-D8ED-45DB-AC78-C8E04EE60789}	MSIGENERATORROOT	0	<null>
cmp0194E3097F77CAB8A1909D06CAB9C445	{A8583182-E1E5-4F99-8D80-FD9671B4908E}	MSIEDITORROOT	0	<null>
cmp01E6309A9129F556BE87AC1E2C863933	{2BD5385D-F209-43B5-8C48-9F4DB8A0ECE9}	dirEFA2C0FFA64DFE12D8CE212B95E005C8	0	<null>
cmp021709891F51CEA8D966EA361CBAC605	{7D553E36-5D7B-4752-8733-FD8161254185}	MSIEDITORROOT	0	<null>
cmp02C53EC8E88056356EBBC78F7E0A8804	{4F923899-9866-4DF6-8C1D-B1FD5D50DF5E}	MSIEDITORROOT	0	<null>
cmp03C135474D5E45B896EBA80AE71487D0	{DED70ACA-8CF7-4E28-B1C2-656984E9B056}	MSIEDITORROOT	0	<null>
cmp03CF47FBCA227E610AE74C151CF10DC3	{7D6375D2-8AE4-4231-937C-181645E02EA7}	MSIEDITORROOT	0	<null>
cmp048AC21F863D4133A445EA42DC20B0D9	{DCEB72F7-89FF-44C1-9F7D-267C83F6A485}	MSIEDITORROOT	0	<null>
cmp04CA7A47B5488B87FAD013D7298B7A1D	{6FA8F1FC-5E4A-4EEA-B1E9-2D347555820D}	dir33F15391917AF44495354A875488F33E	0	<null>
cmp04E8832C7517C8084E2FED1A6736D42F	{B598BDAB-FCC3-41DA-BE49-5AE6B8C8356B}	MSIEDITORROOT	0	<null>
cmp06688A5A7452DE33957A30532F659823	{A4A8500A-3166-4F2A-88AF-94EF5D3EF2F4}	MSIGENERATORROOT	0	<null>
cmp09F7AC2A2FF723969F8012AC52E69803	{220148B5-F81B-435C-9EA6-D19AED58020A}	MSIEDITORROOT	0	<null>
cmp0AD5B58486F0407826081628CD86768A	{75F81F51-1EDF-4D4D-A414-B1FF4D4458D3}	dirC09160898B98880BADF683C5CCF0862	0	<null>
cmp0B7757366D7F6088BF5DB57F5190E030	{0768953F-4154-48CD-BFCB-01C9CDAF6851}	dirD0D367A0F19D85E0F041F02F2E2977E5	0	<null>

☒ Hide empty tables ☒ Enable linked items tracking for delete/update operations

Selected rows: 1 / Total rows: 410

Row references ICE validation Undo/Redo history

State	Table	Row Key	Description
→	Directory	SystemFolderBD8D7F3C_DD83_4C72_A623_4C30BD84B87	Component.Directory_ => Directory.Directory
→	File	cmdlg32.ocx.BD8D7F3C_DD83_4C72_A623_4C30BD84B87	Component.KeyPath => File.File
←	Class	{3C4F3BE3-47EB-101B-A3C9-0800282F49FB}.InprocServer3	Component.Component => Class.Component_
←	Class	{3C4F3BE3-47EB-101B-A3C9-0800282F49FB}.InprocServer3	Component.Component => Class.Component_
←	Class	{3C4F3BE3-47EB-101B-A3C9-0800282F49FB}.InprocServer3	Component.Component => Class.Component_
←	Class	{7629CFA2-3FE5-101B-A3C9-0800282F49FB}.InprocServer3	Component.Component => Class.Component_

- For saving your package, select Save from the MENU.

MSI Editor - PACE_v5.0.0.msi

MENU Package Summary Package Designer Tables Editor

New MSI... Ctrl + N

New MST...

Open... Ctrl + O

Open recent

Apply MST to MSI...

Remove MST from MSI

Save Ctrl + S

Save as...

Create MSP against original MSI...

Generate package report...

Deploy to SCCM...

Active scripting...

Compare packages...

Edit

Import and export

Validation

Help

Quit Alt + F4

Complexity estimation

Complexity level: **Medium**

Files:

Regis

Custr

Servi

ODBI

ICE e

Recalculate

Export results to file

3.8 Edit Project

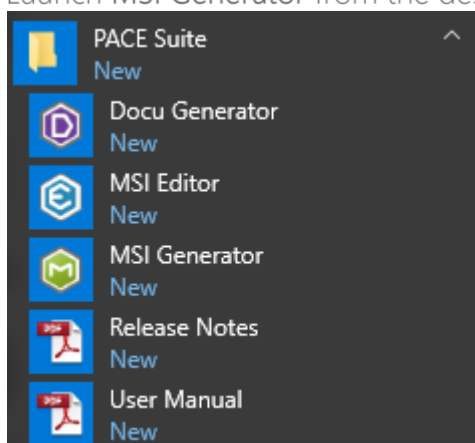
Choose a scenario that better suits your needs:

- For managing **File and Folders** see section 3.8.2
Exclude/include captured files, add new folders, files.
- For managing **Registry** see section 3.8.3
Exclude/include captured registry entries, import and export registry.
- For managing **Services** see section 3.8.4
Exclude/include captured services and manage their details.
- For managing **Environment Variables** see section 3.8.5
Manage captured environment variables, manage their details, create new ones.
- For managing **MSI Settings** see section 3.8.6
Select the MSI specific settings for creting the MSI packages.
- For managing **MSIX/APPX Settings** see section 3.8.7
Select the MSIX/APPX specific settings for creting the MSIX/APPX packages.
- For managing **APPV Settings** see section 3.8.8
Select the APPV specific settings for creting APPV packages.
- For managing **THINAPP Settings** see section 3.8.9
Select the THINAPP specific settings for creting THINAPP packages.

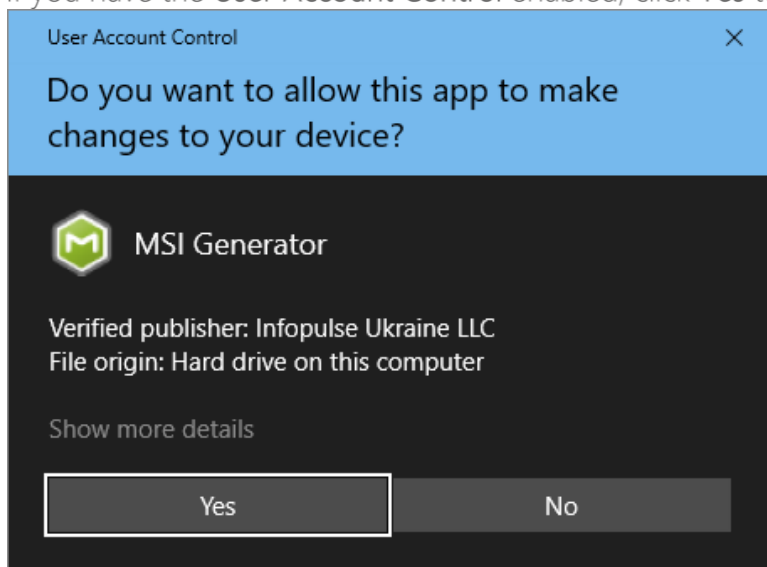
3.8.1 Pre-Condition

Open a project file following the instructions below:

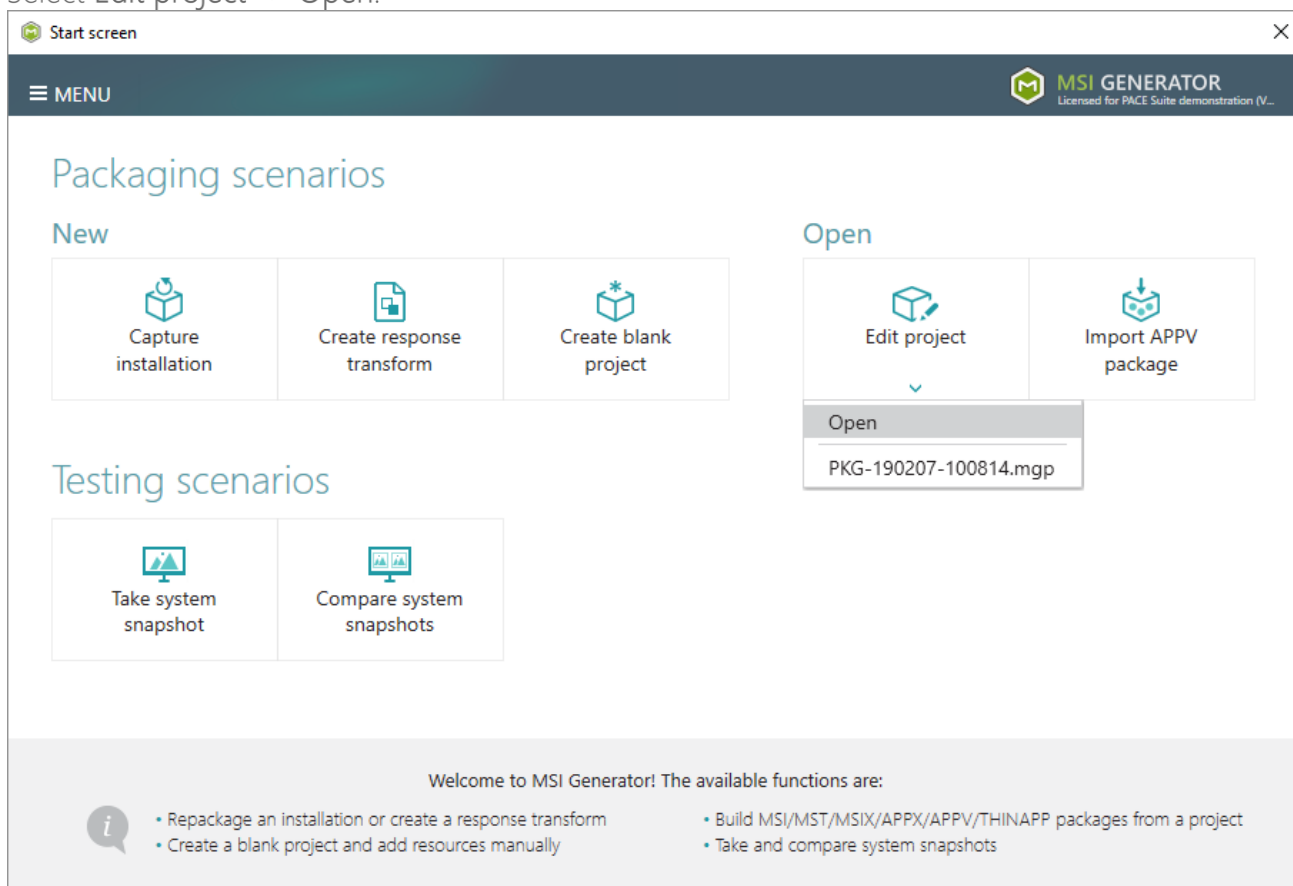
- Launch MSI Generator from the desktop of the start menu shortcut.



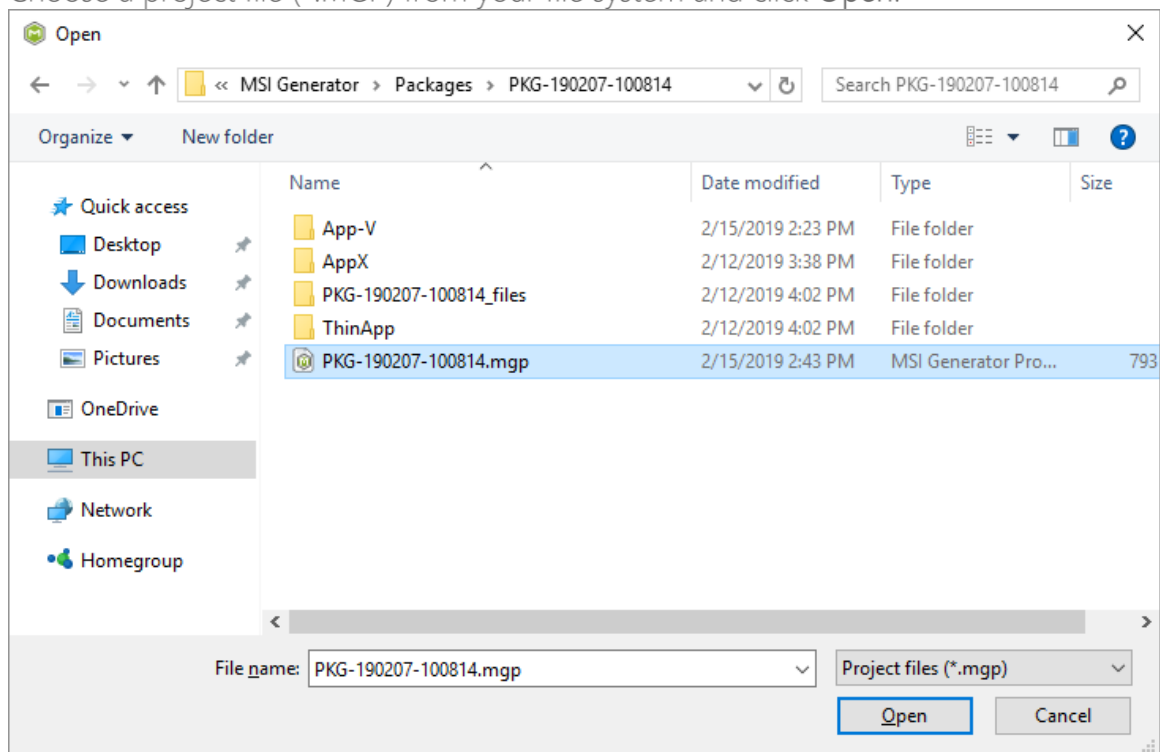
- If you have the User Account Control enabled, click Yes to launch the application.



- Select Edit project -> Open.



- Choose a project file (*.MGP) from your file system and click Open.



3.8.2 File and Folders

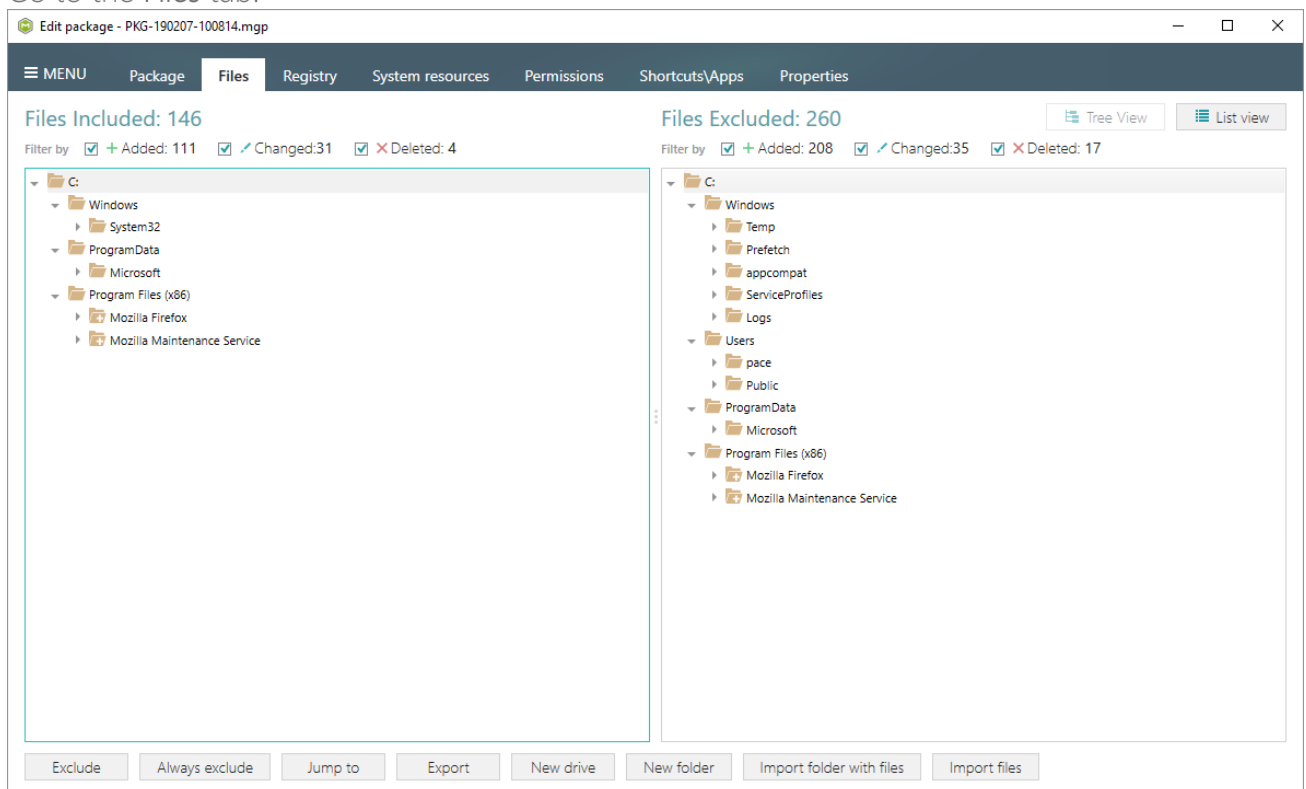
Choose a scenario that better suits your needs:

- **Exclude File/Folder**, described in section 3.8.2.1
Exclude the unnecessary files and folders from the project.
- **Include Excluded File/Folder**, described in section 3.8.2.2
Include the necessary resources, previously excluded from the project.
- **Add Folder**, described in section 3.8.2.3
Create a new empty folder.
- **Import Files**, described in section 3.8.2.4
Import files from the file system to the project.

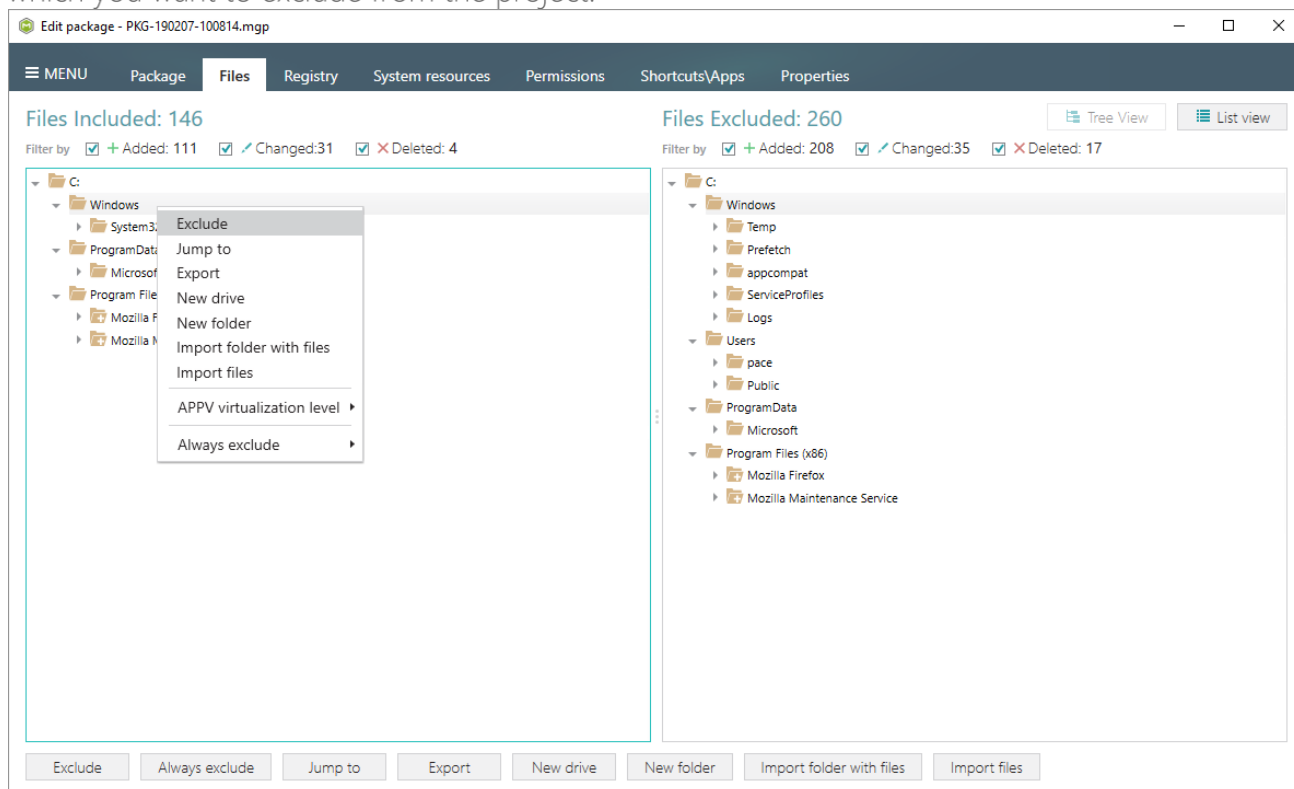
3.8.2.1 Exclude File/Folder

Exclude the unnecessary files and folders from the project.

- Go to the Files tab.



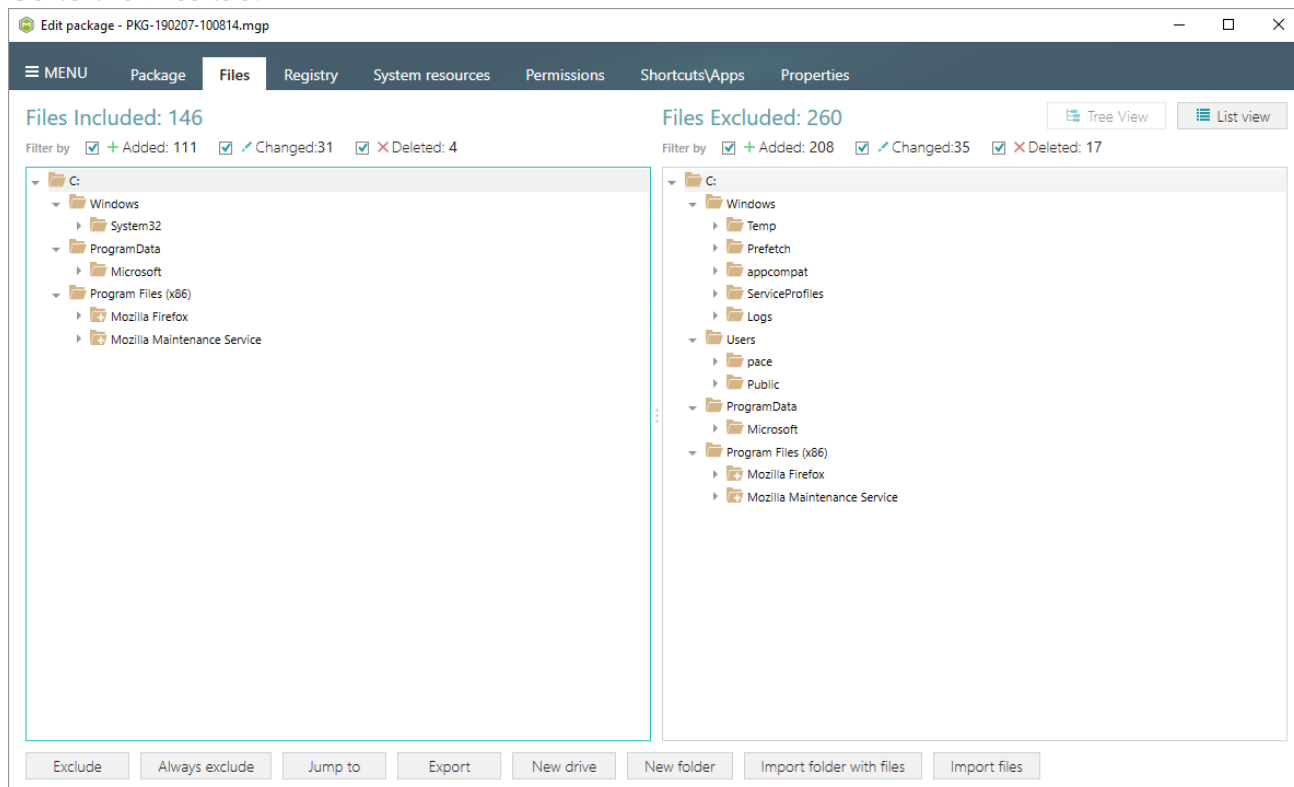
- Select Exclude from the context menu of an item, located on the left 'Files Included' pane, which you want to exclude from the project.



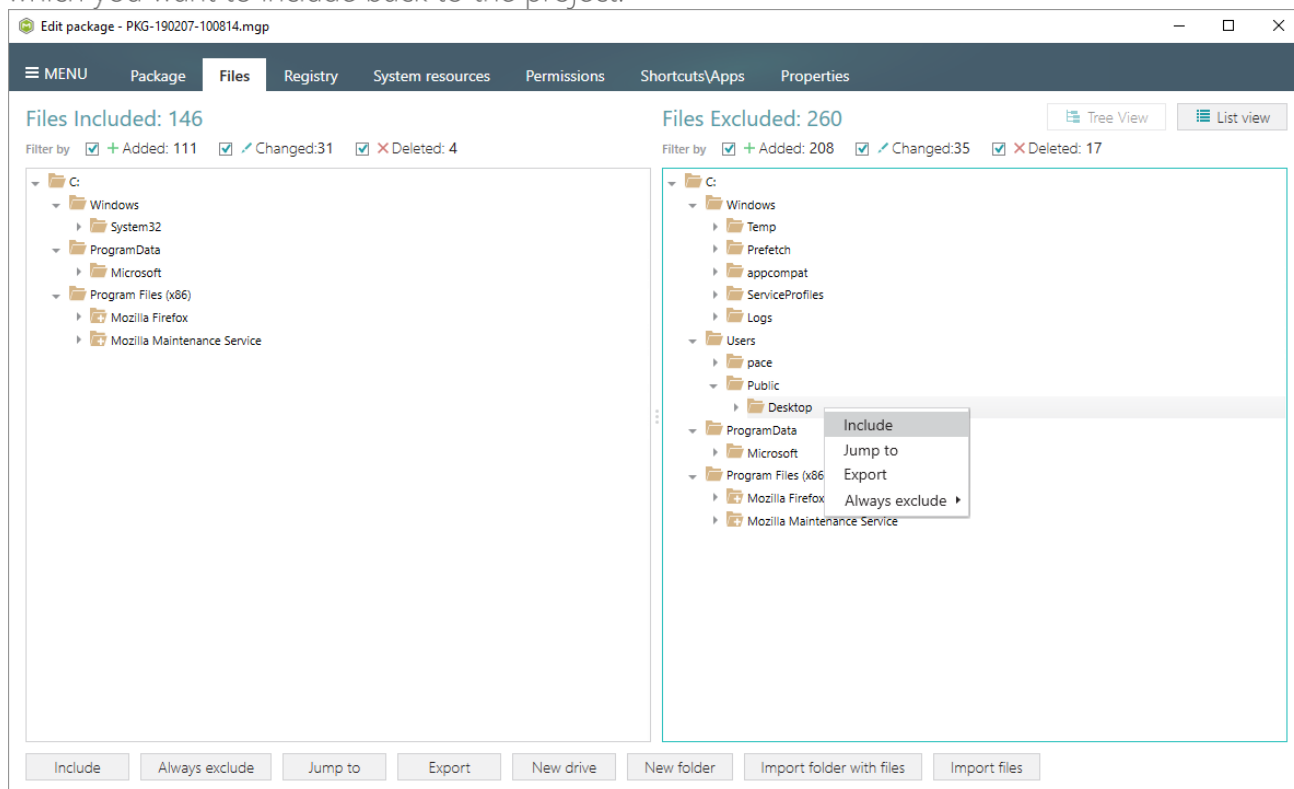
3.8.2.2 Include Excluded File/Folder

Include the necessary files and folders, previously excluded from the project.

- Go to the Files tab.



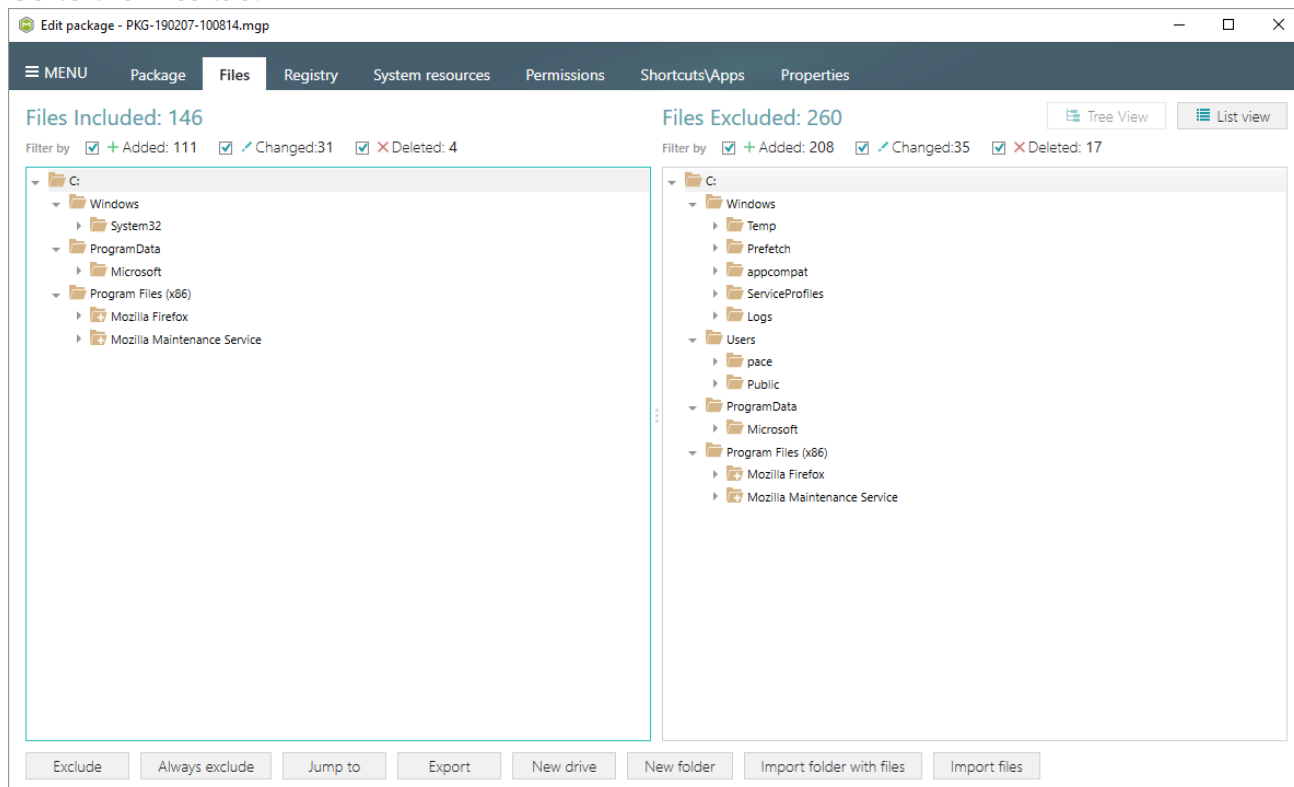
- Select **Include** from the context menu of an item, located on the right 'Files Excluded' pane, which you want to include back to the project.



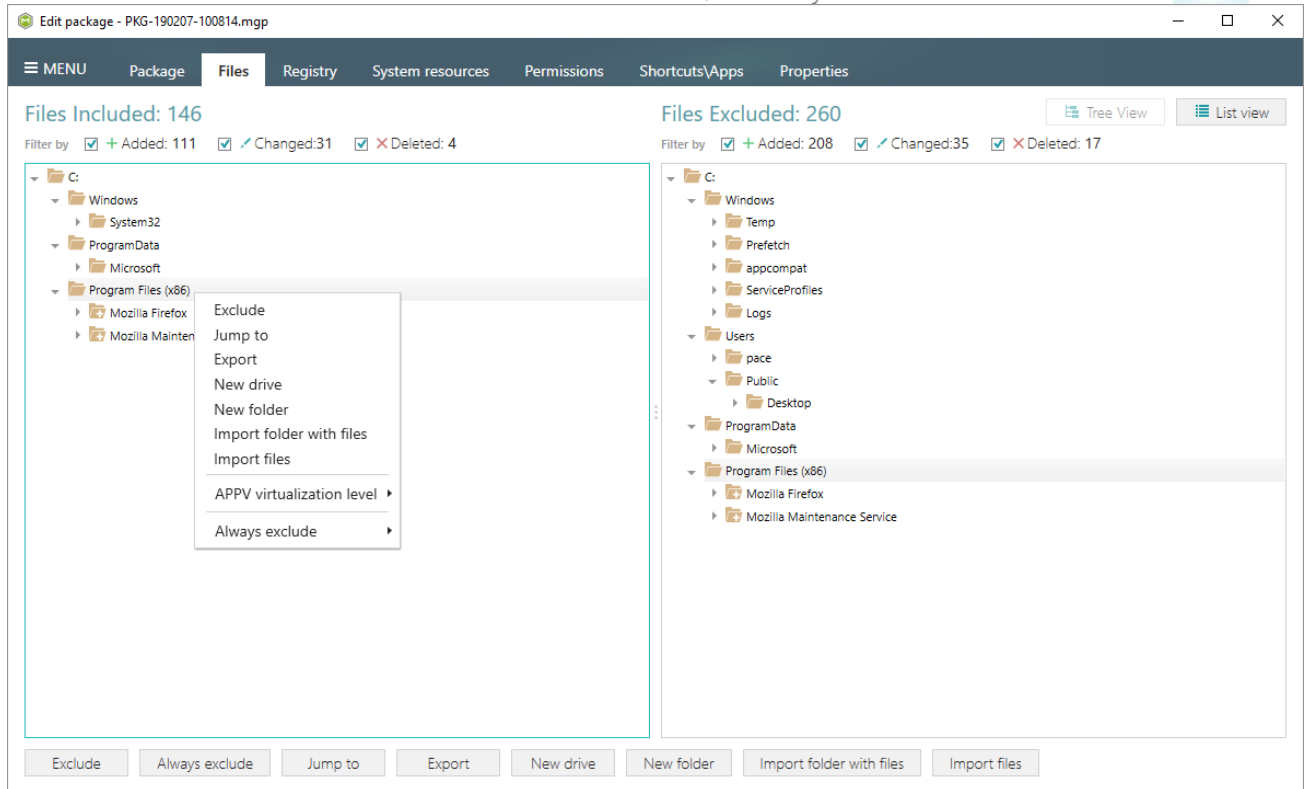
3.8.2.3 Add Folder

Create a new empty folder.

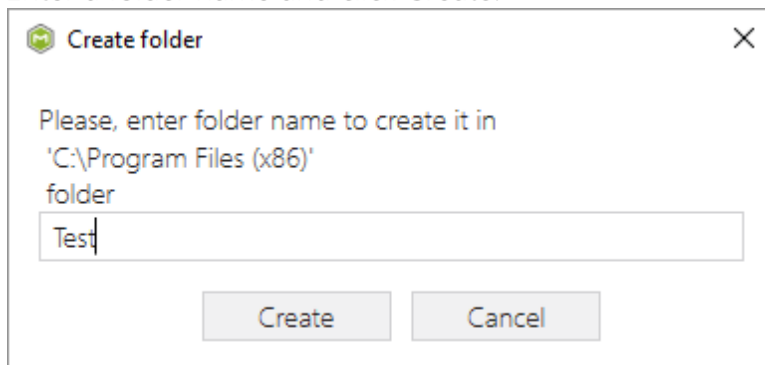
- Go to the Files tab.



- Select **New folder** from the context menu of a folder, where you want to a new folder.



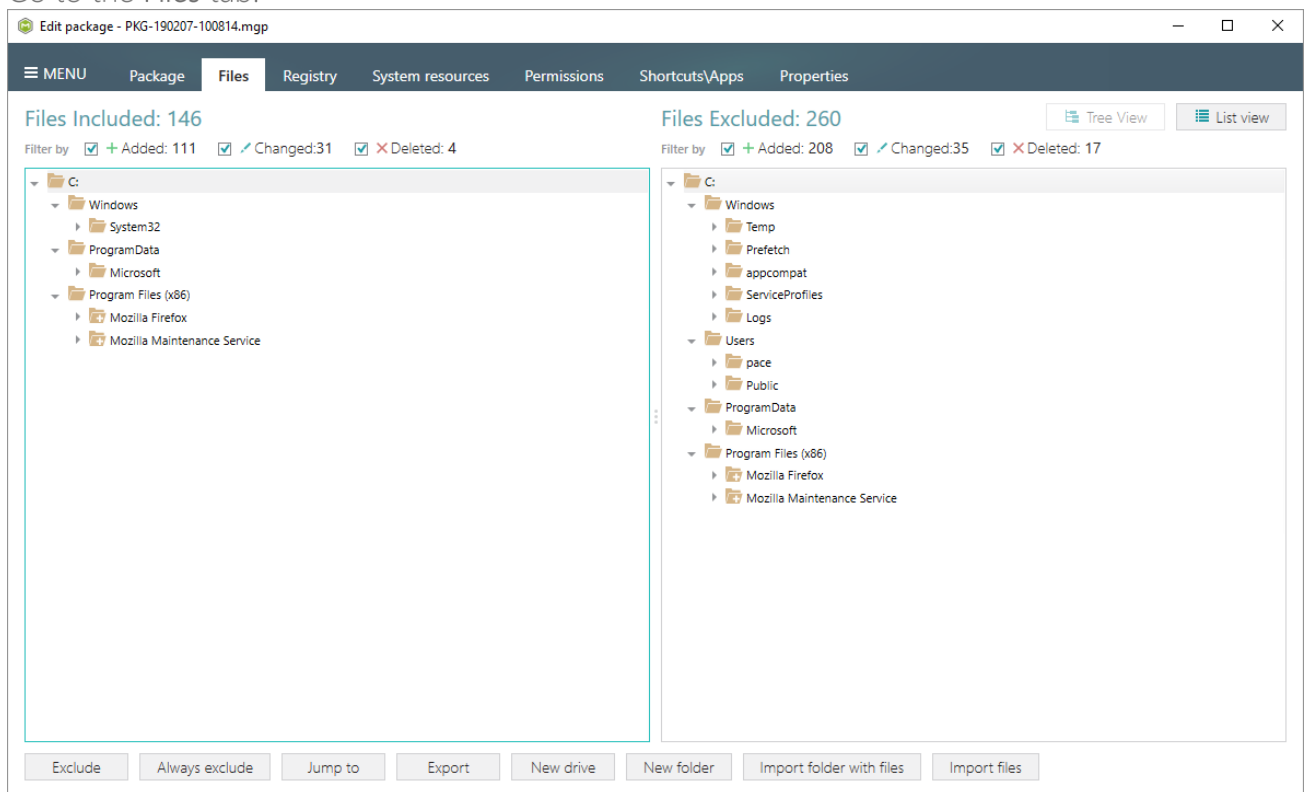
- Enter a folder name and click **Create**.



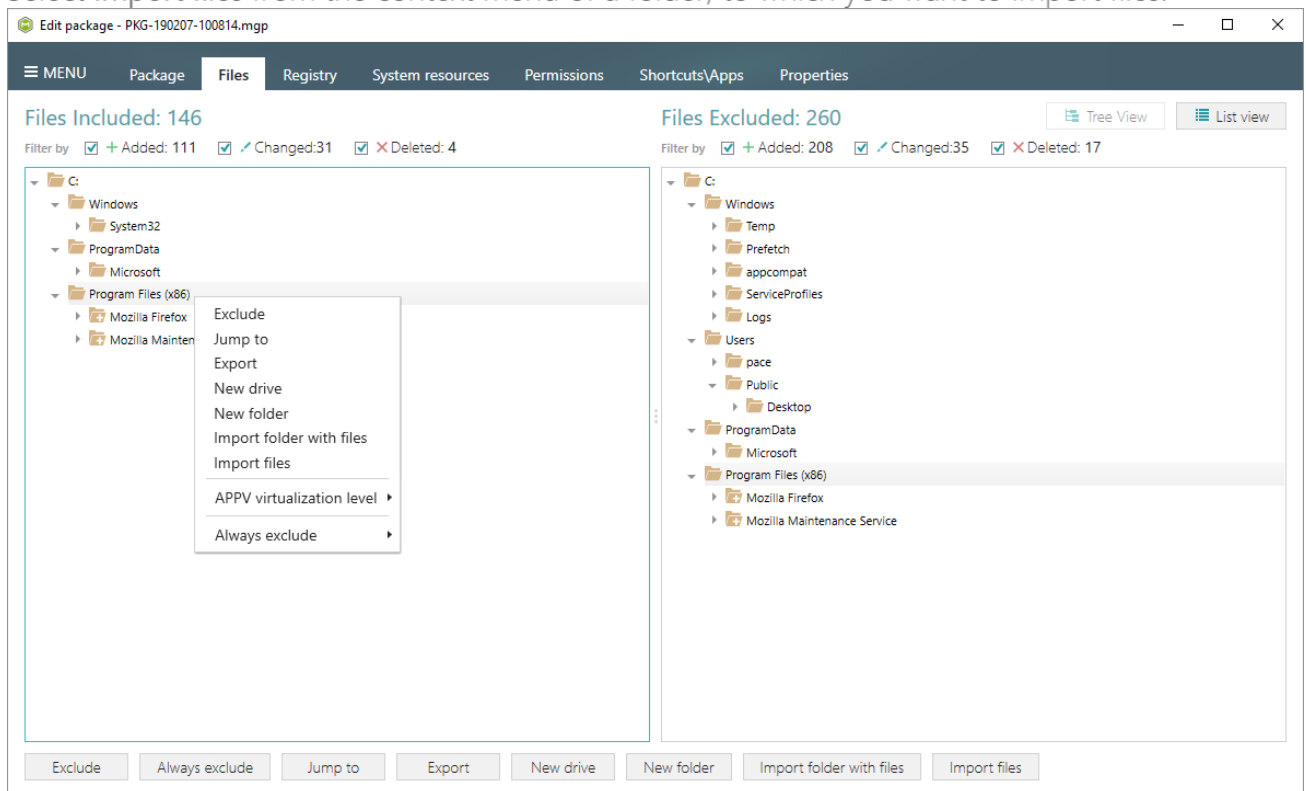
3.8.2.4 Import Files

Import files from the file system to the project.

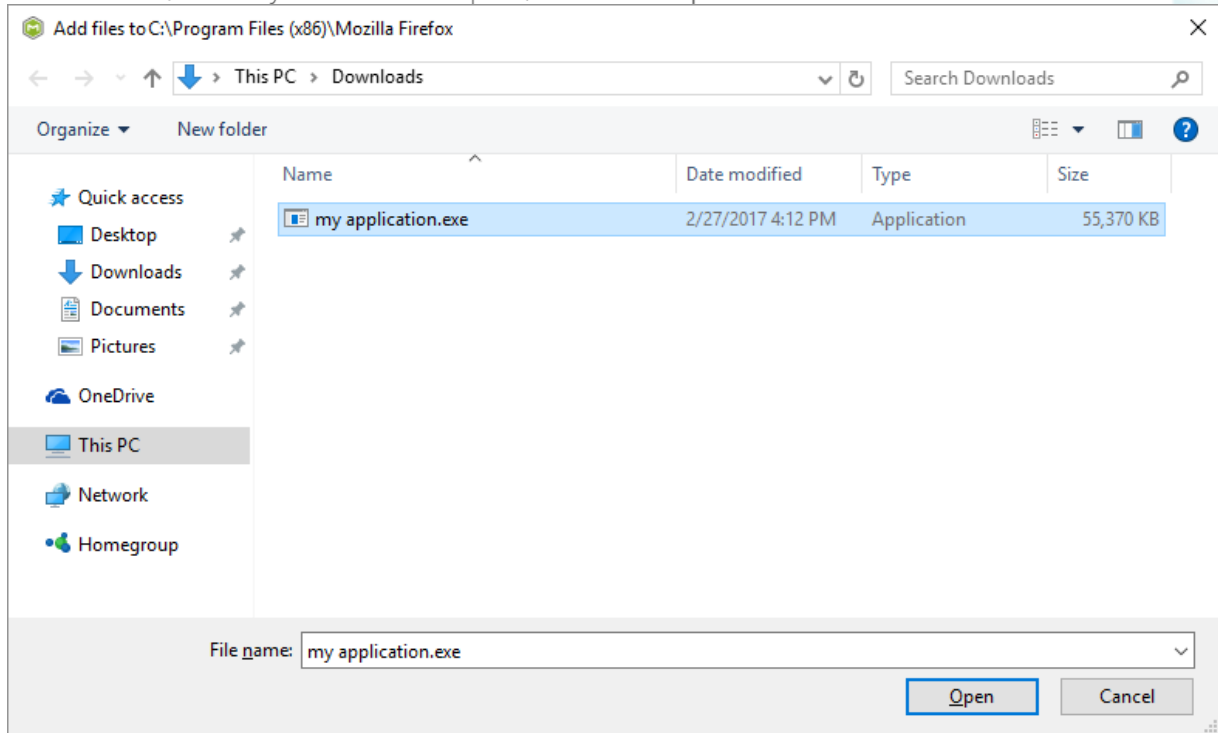
- Go to the Files tab.



- Select Import files from the context menu of a folder, to which you want to import files.



- Choose files, which you want to import, and click Open.



3.8.3 Registry

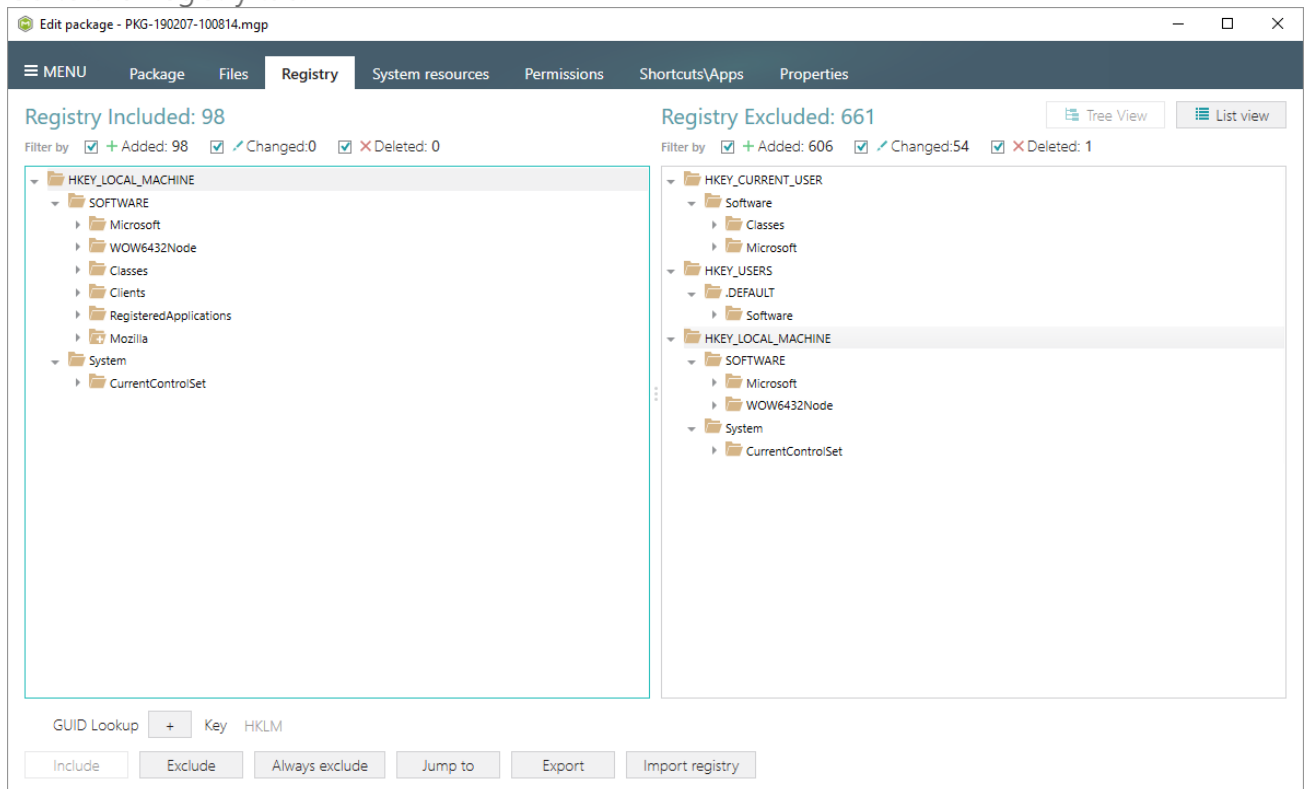
Choose a scenario that better suits your needs:

- **Exclude Registry**, described in section 3.8.3.1
Exclude the unnecessary registry keys and values from the project.
- **Include Excluded Registry**, described in section 3.8.3.2
Include the necessary registry keys and values, previously excluded from the project.
- **Import Registry**, described in section 3.8.3.3
Import registry from the REG file to the project.
- **Export Registry**, described in section 3.8.3.4
Export registry from the project to the REG file.

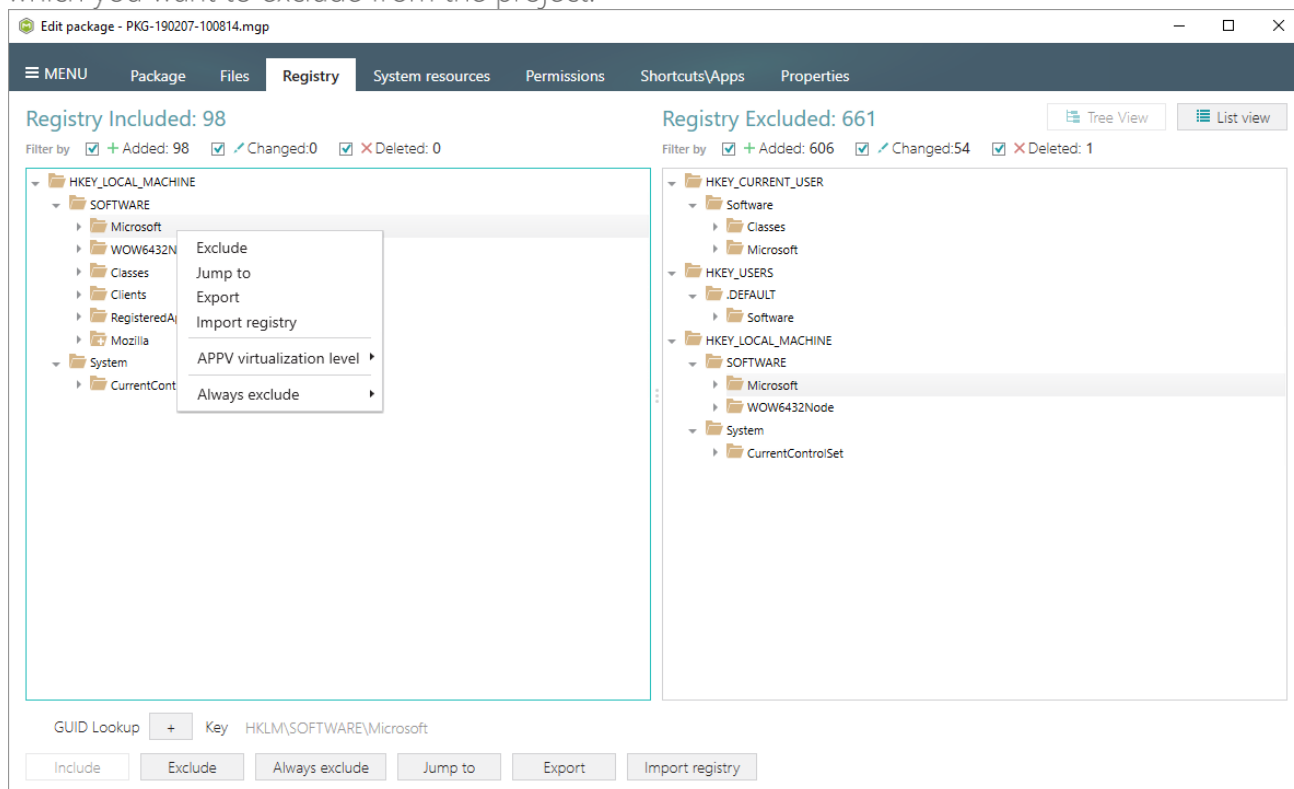
3.8.3.1 Exclude Registry

Exclude the unnecessary registry keys and values from the project.

- Go to the Registry tab.



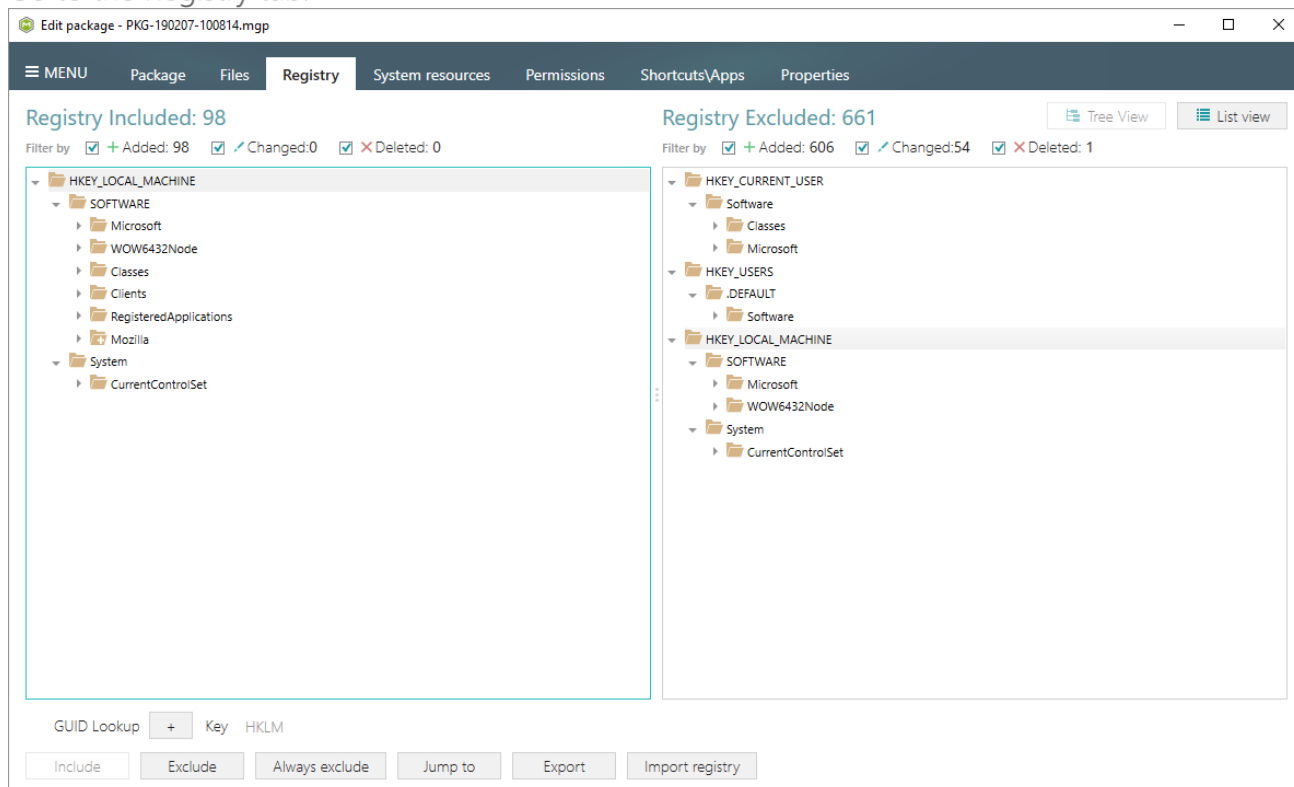
- Select Exclude from the context menu of an item, located in the left 'Registry Included' pane, which you want to exclude from the project.



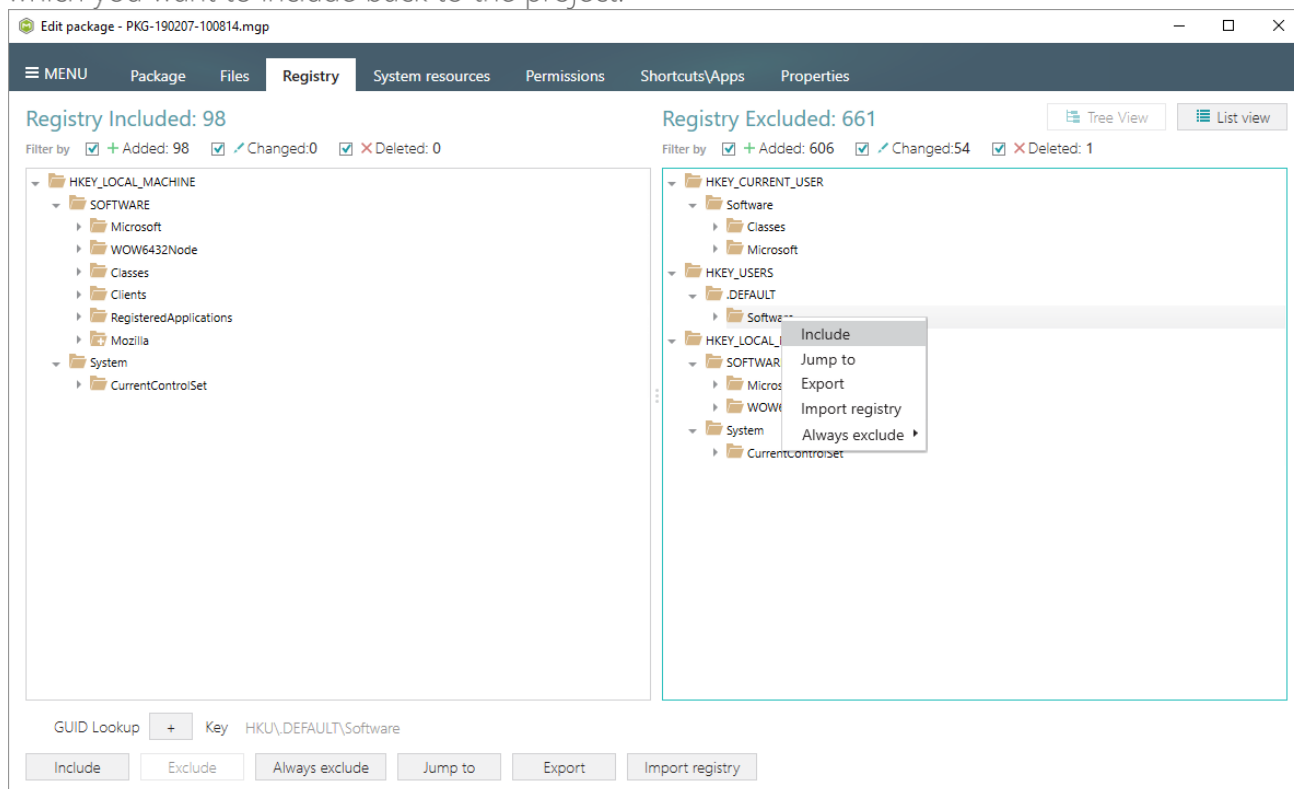
3.8.3.2 Include Excluded Registry

Include the necessary registry keys and values, previously excluded from the project.

- Go to the Registry tab.



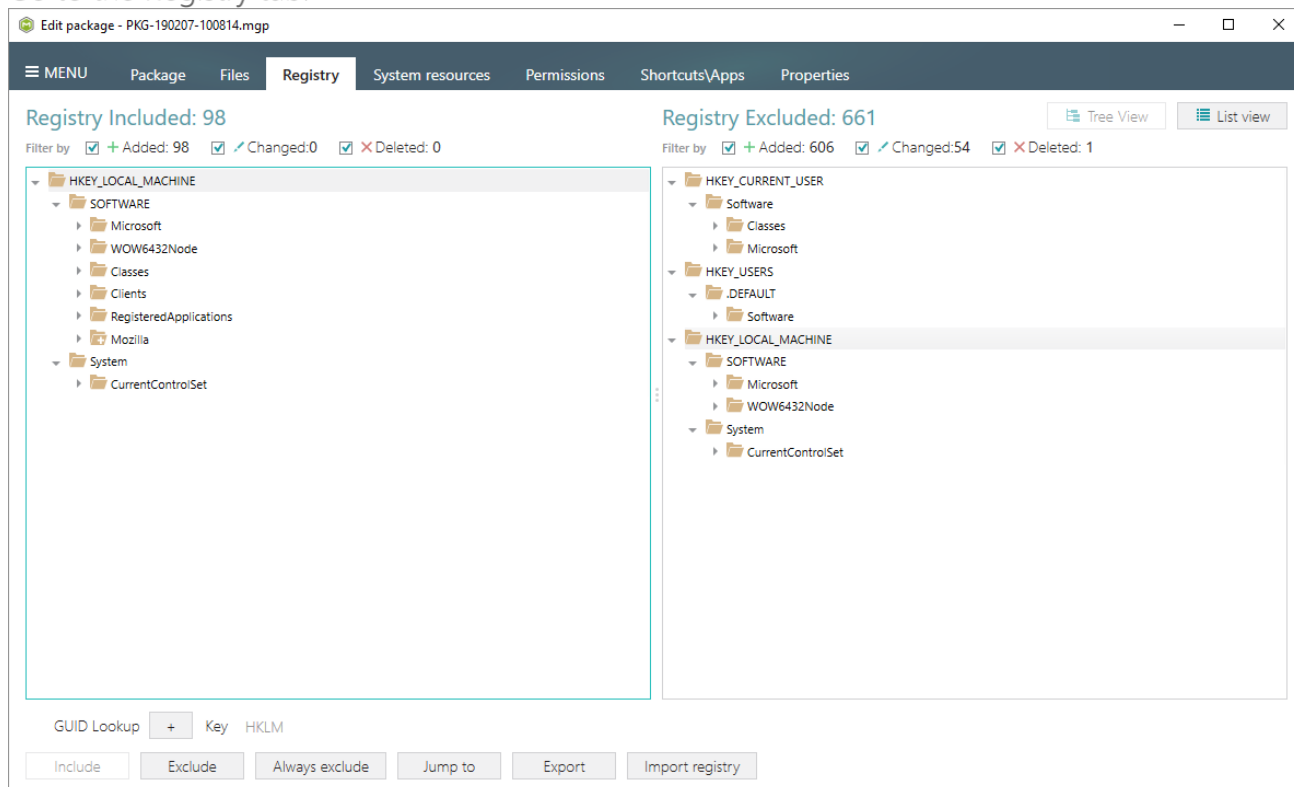
- Select **Include** from the context menu of an item, located in the right 'Registry Excluded' pane, which you want to include back to the project.



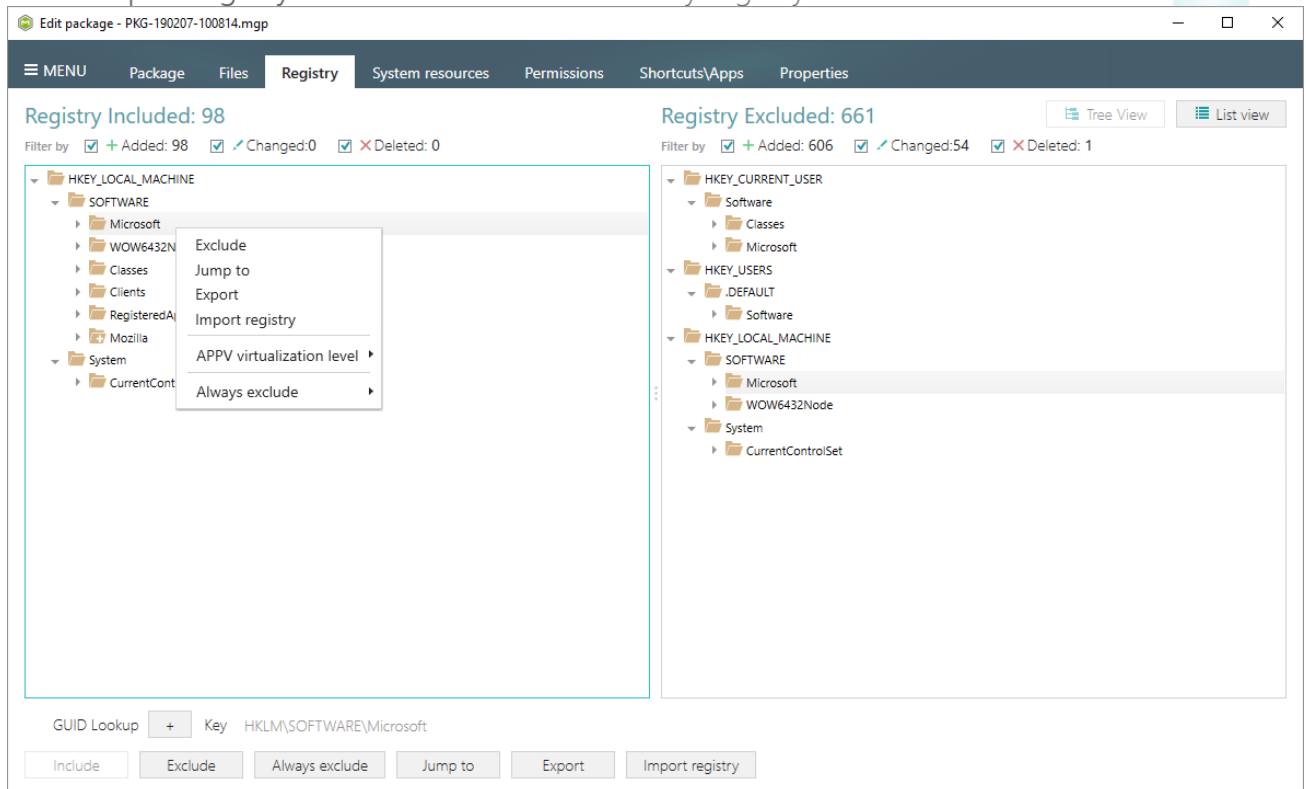
3.8.3.3 Import Registry

Import registry from the REG file to the project.

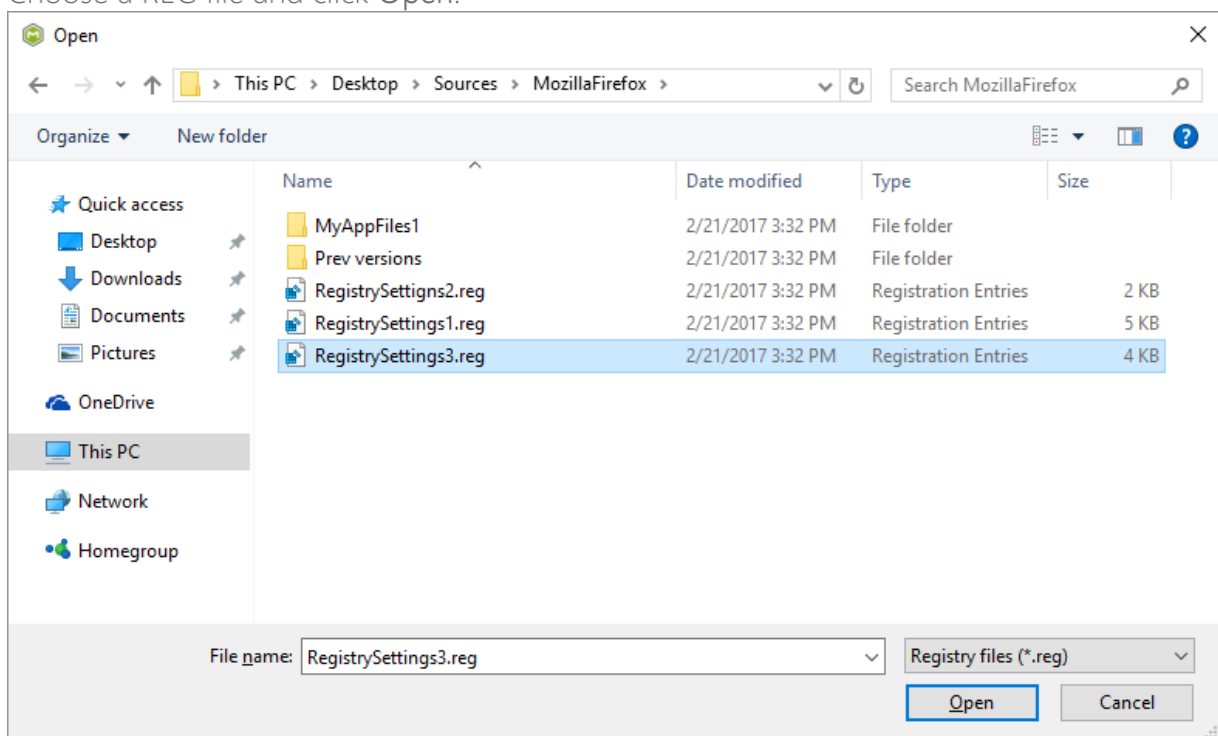
- Go to the Registry tab.



- Select Import registry from the context menu of any registry.



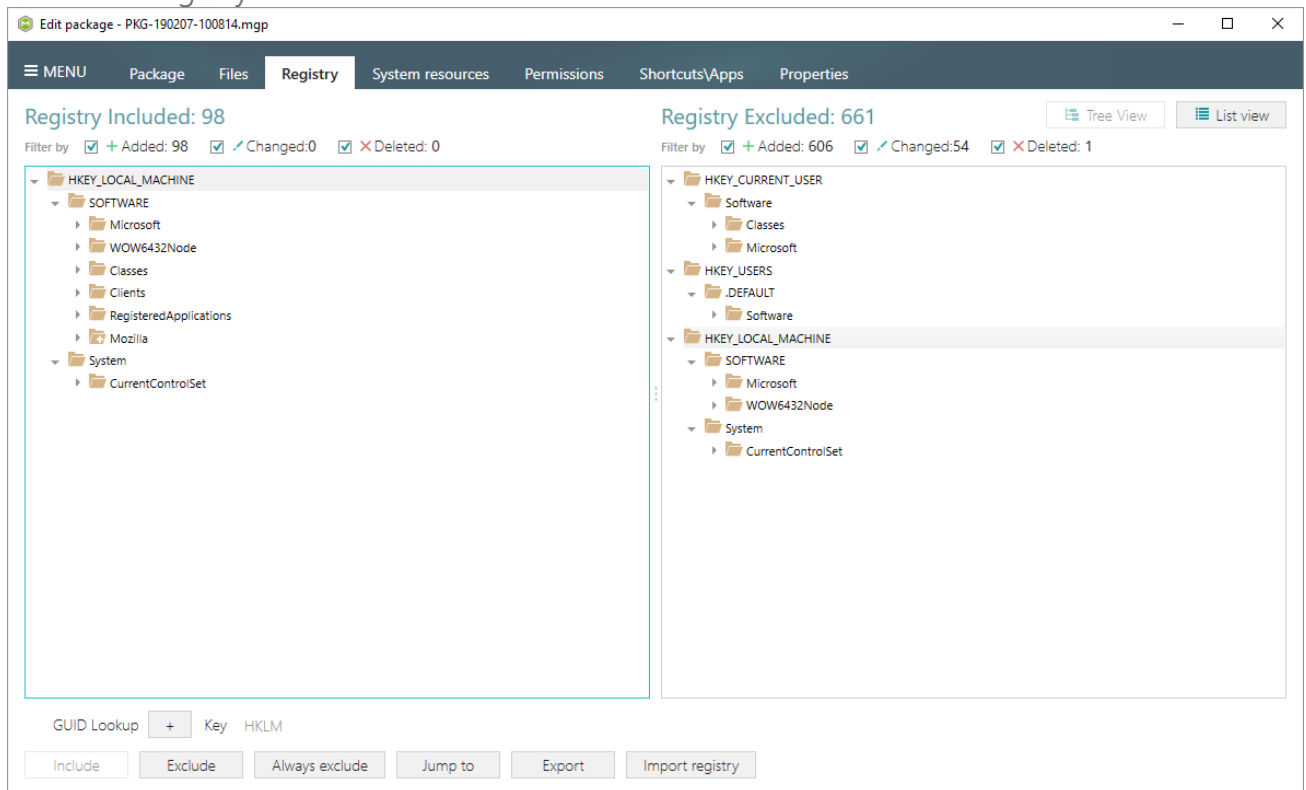
- Choose a REG file and click Open.



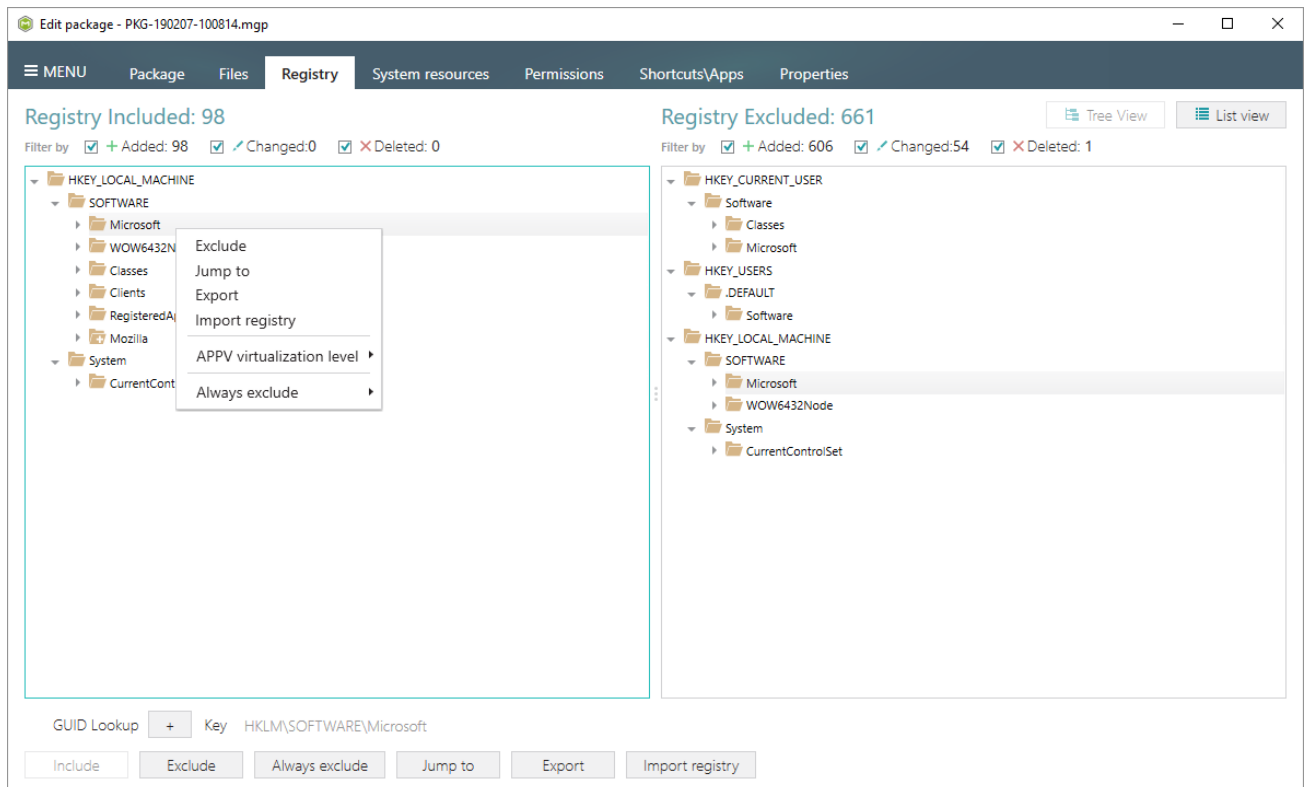
3.8.3.4 Export Registry

Export registry from the project to the REG file

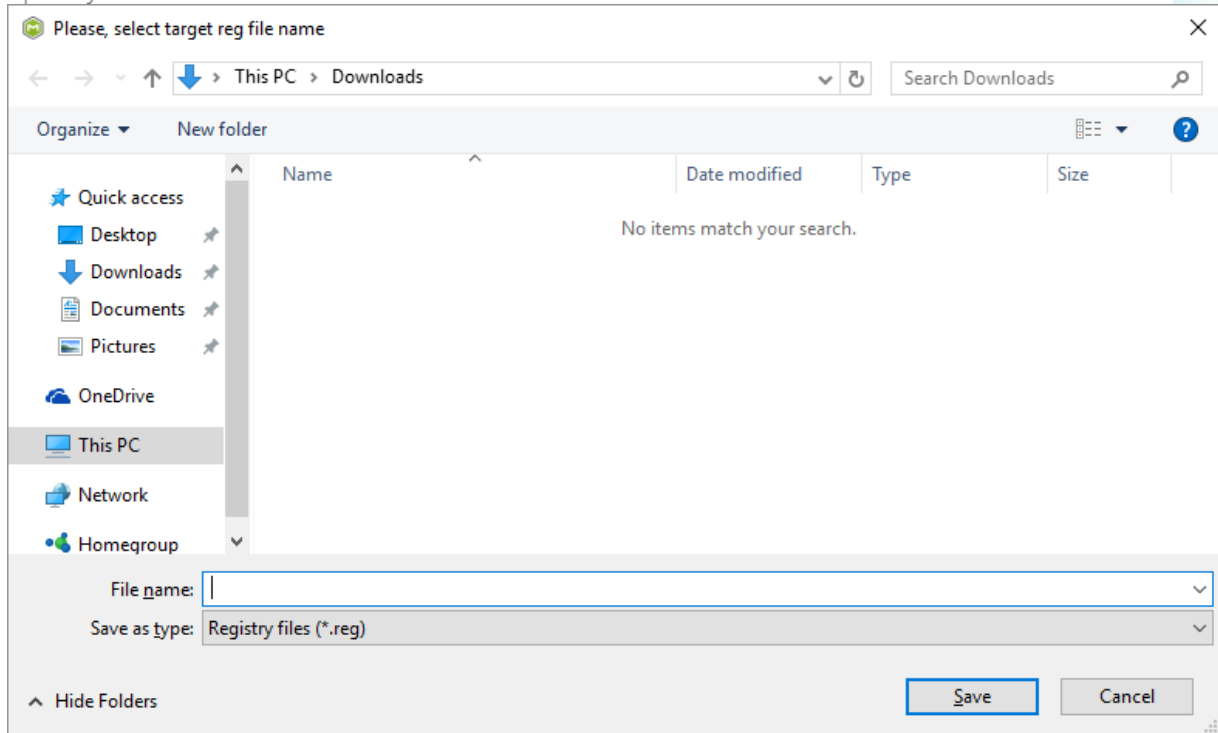
- Go to the Registry tab.



- Select **Export** from the context menu of a registry key or value, which you want to export to the REG file.



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



3.8.4 Services

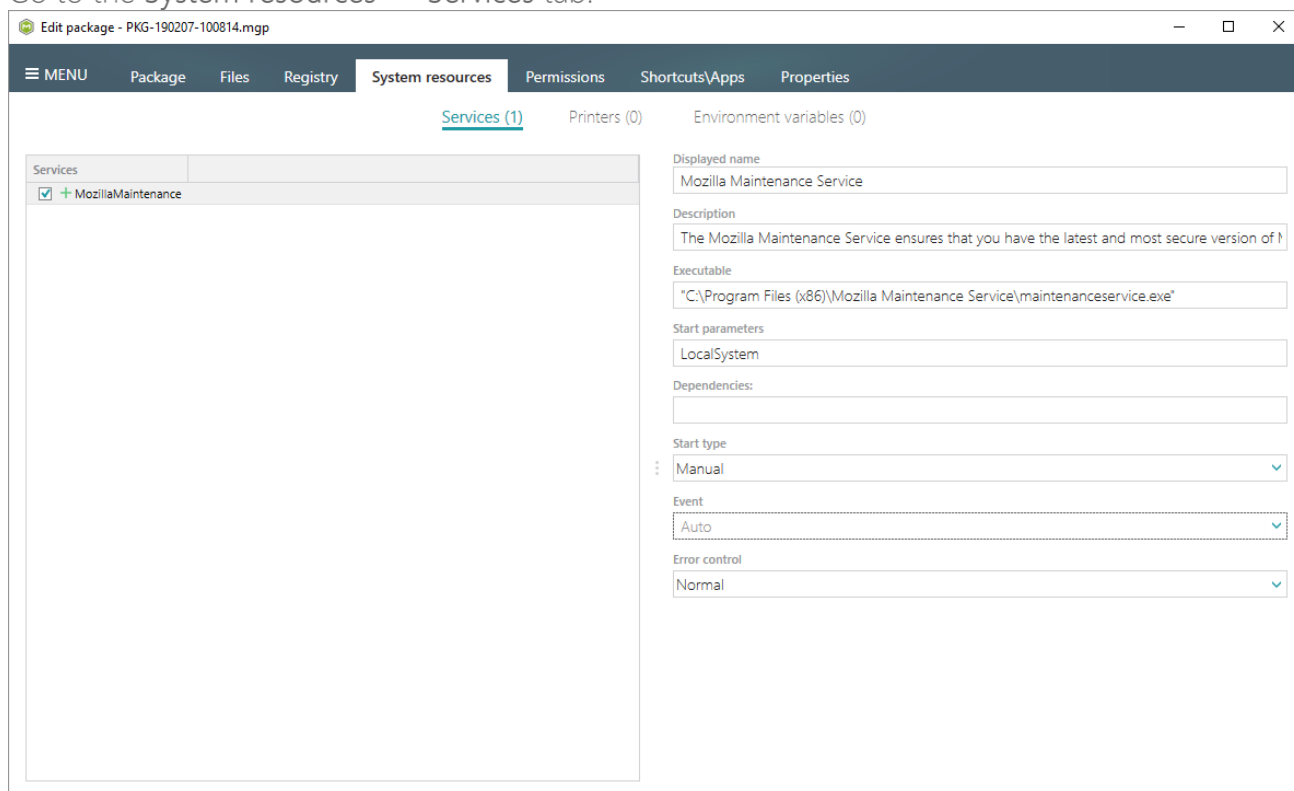
Choose a scenario that better suits your needs:

- **Exclude Service**, described in section 3.8.4.1
Exclude the unnecessary services from the project.
- **Include Excluded Service**, described in section 3.8.4.2
Include the necessary services, previously excluded from the project.
- **Edit Service**, described in section 3.8.4.3
Edit the service details such as display name, description, start type, parameters, event and error control.

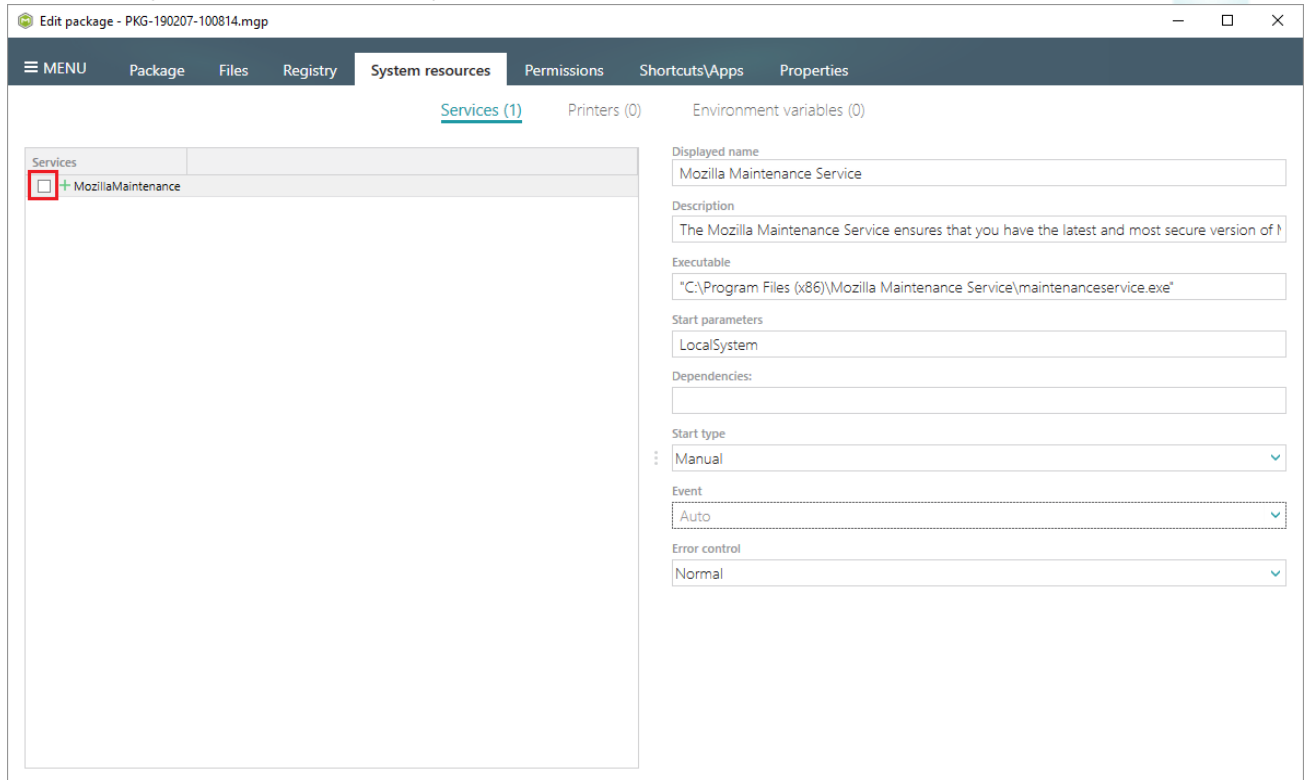
3.8.4.1 Exclude Service

Exclude the unnecessary services from the project.

- Go to the System resources -> Services tab.



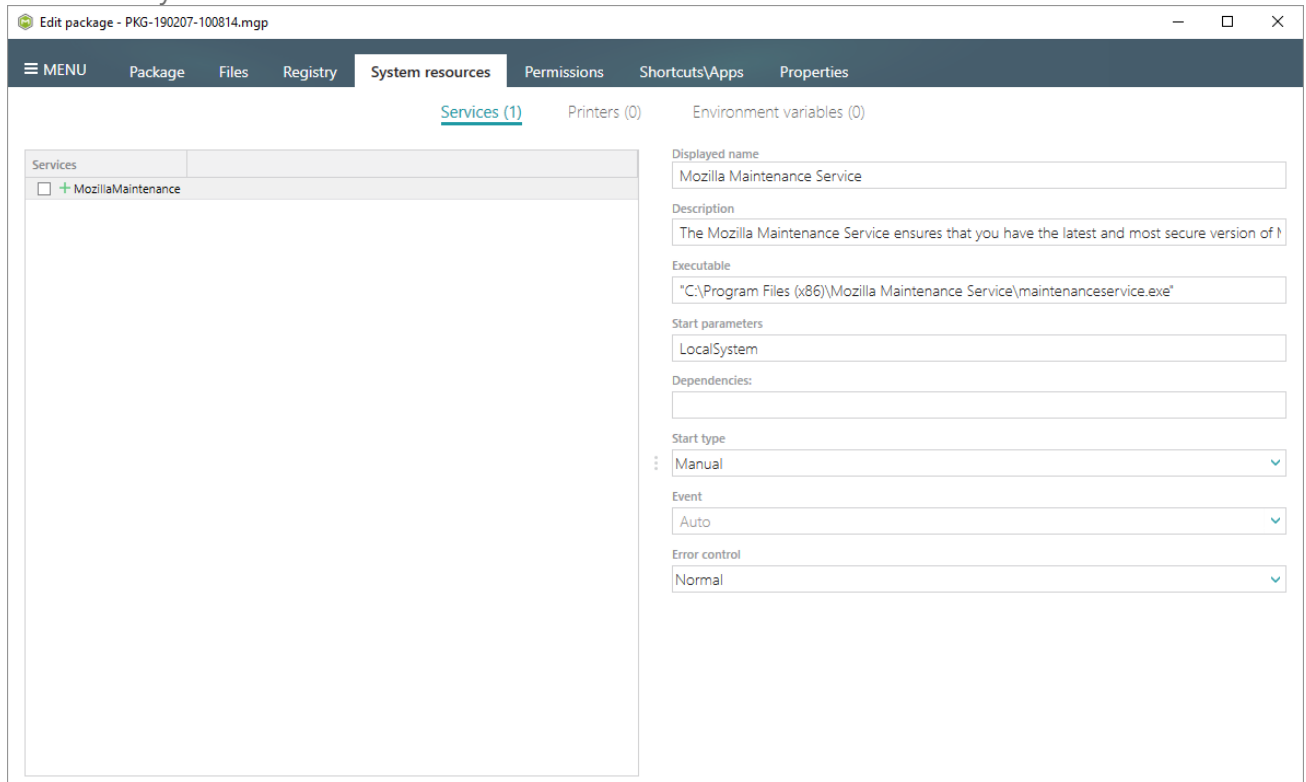
- To exclude, untick the checkbox, located before the service name.



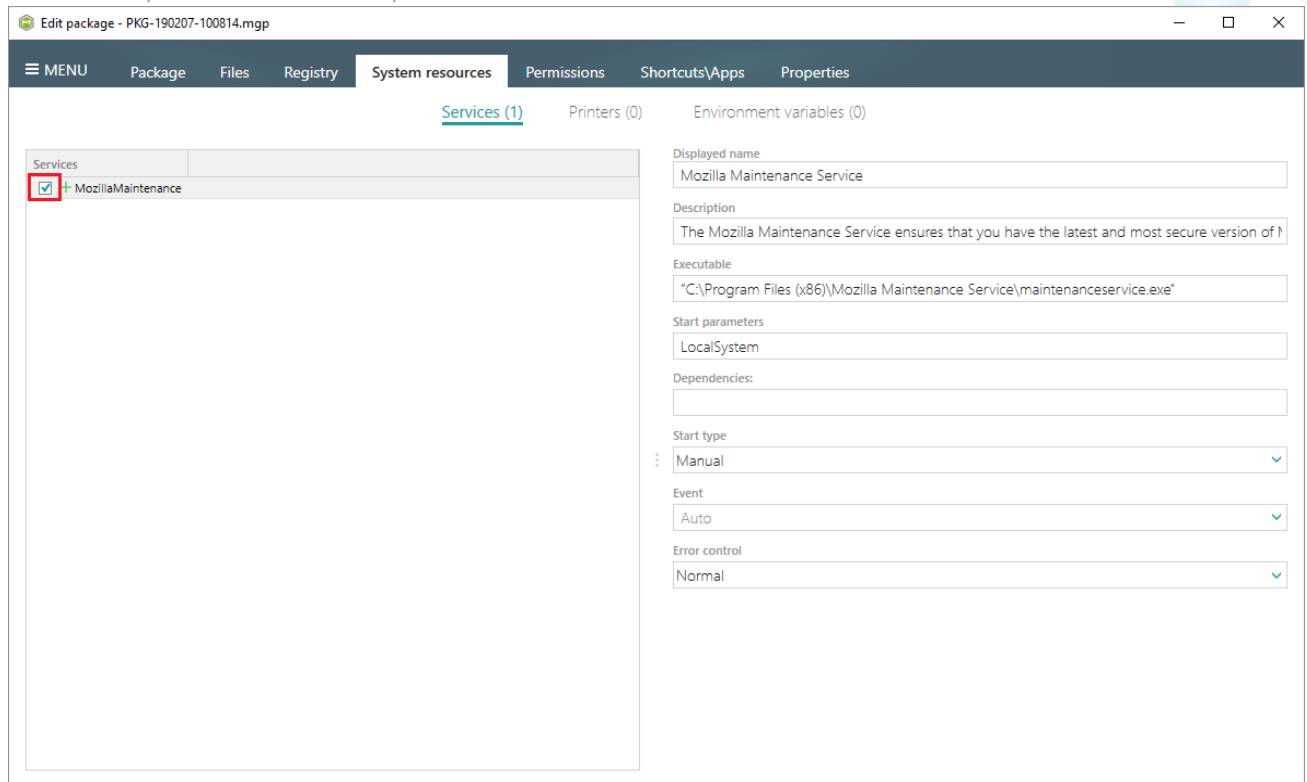
3.8.4.2 Include Excluded Service

Include the necessary services, previously excluded from the project.

- Go to the System resources -> Services tab.



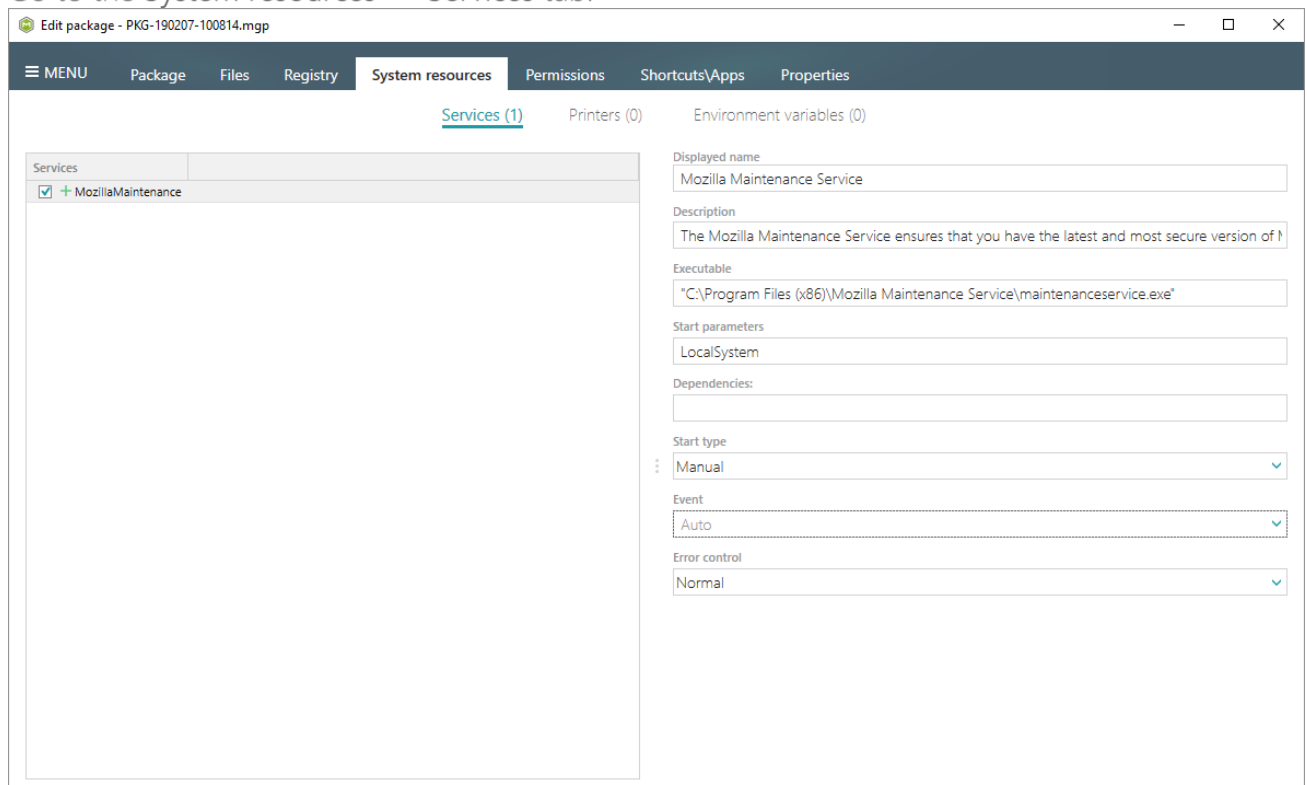
- To include, tick the checkbox, located before the service name.



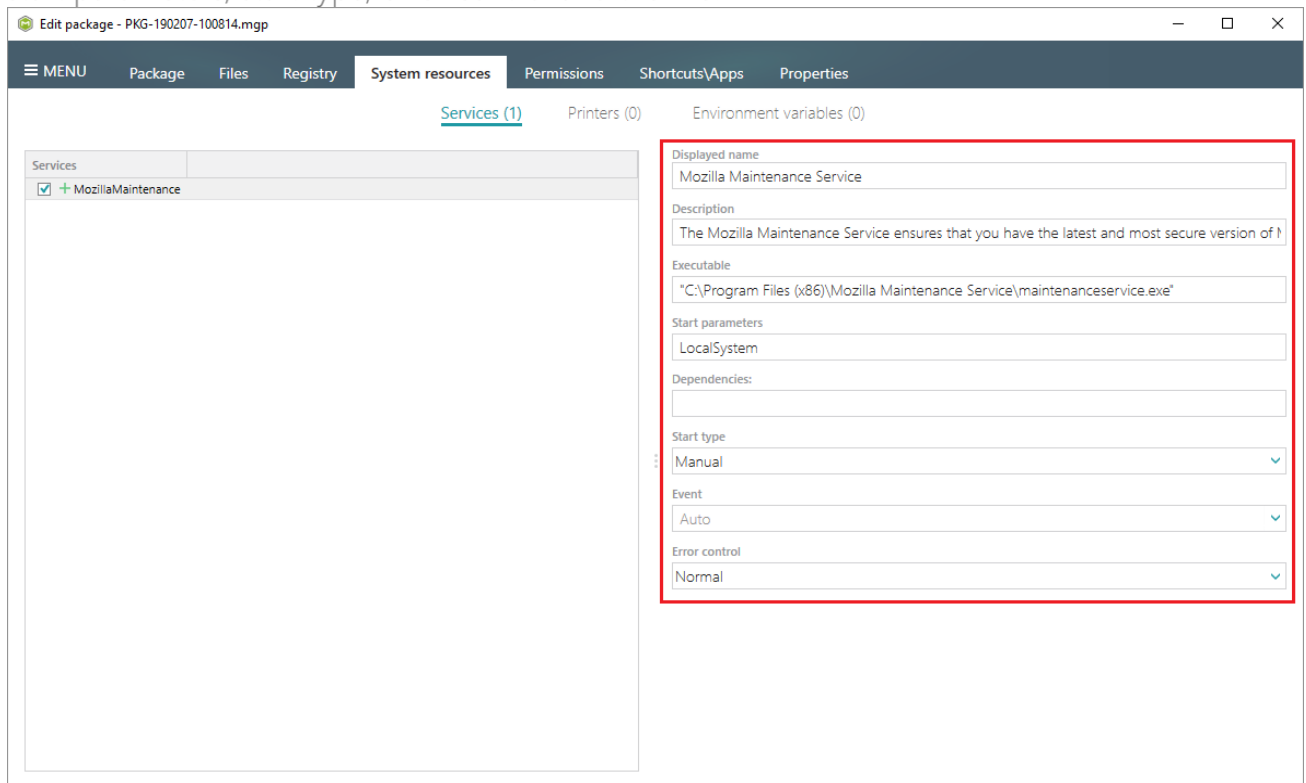
3.8.4.3 Edit Service

Edit the service details such as display name, description, start type, parameters, event and error control.

- Go to the System resources -> Services tab.



- Update the necessary values such as service display name, description, path to executable, start parameters, start type, error control and the like.



Edit package - PKG-190207-100814.mgp

MENU Package Files Registry **System resources** Permissions Shortcuts/Apps Properties

Services (1) Printers (0) Environment variables (0)

Services

☒ + MozillaMaintenance

Displayed name
Mozilla Maintenance Service

Description
The Mozilla Maintenance Service ensures that you have the latest and most secure version of Mozilla Firefox.

Executable
"C:\Program Files (x86)\Mozilla Maintenance Service\maintenanceservice.exe"

Start parameters
LocalSystem

Dependencies:

Start type
Manual

Event
Auto

Error control
Normal

3.8.5 Environment Variables

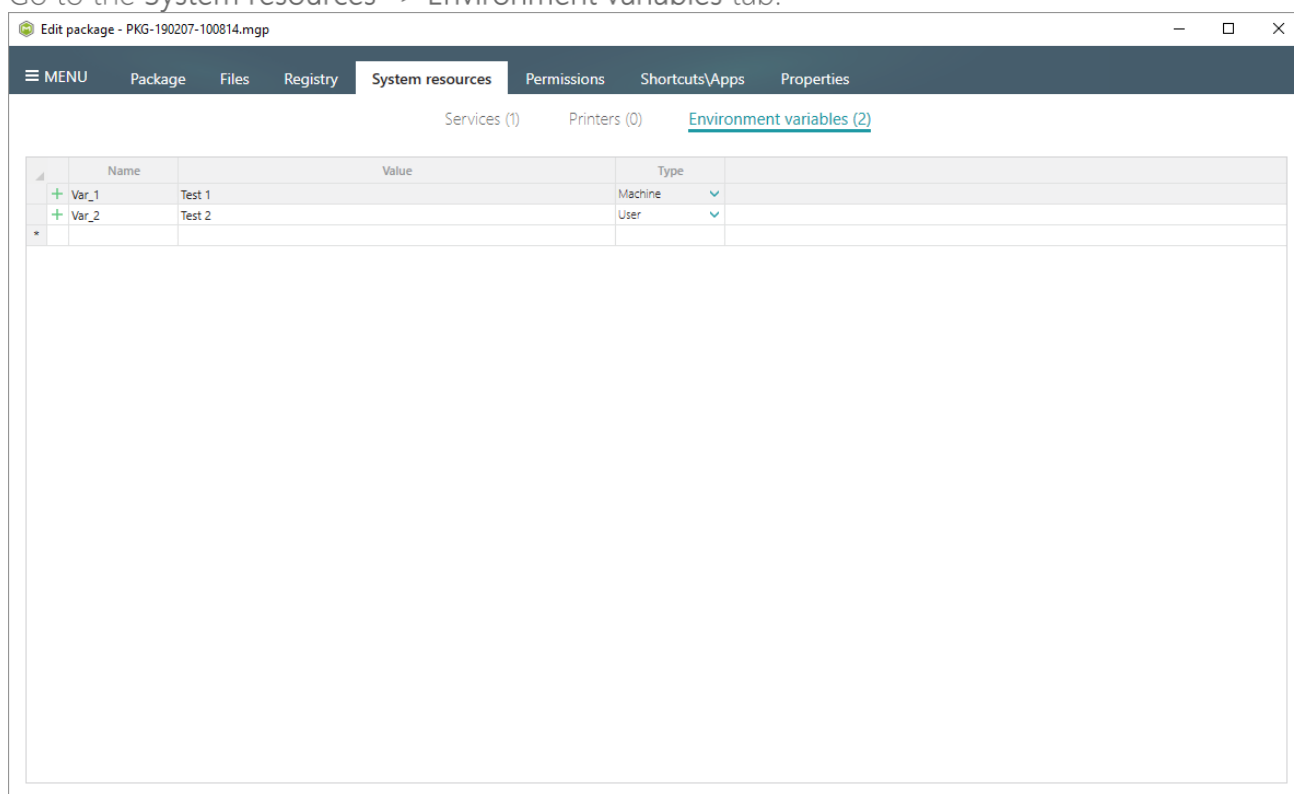
Choose a scenario that better suits your needs:

- **Add Environment Variable**, described in section 3.8.5.1
Add a new environment variable to the project.
- **Remove Environment Variable**, described in section 3.8.5.2
Remove an environment variable from the project.

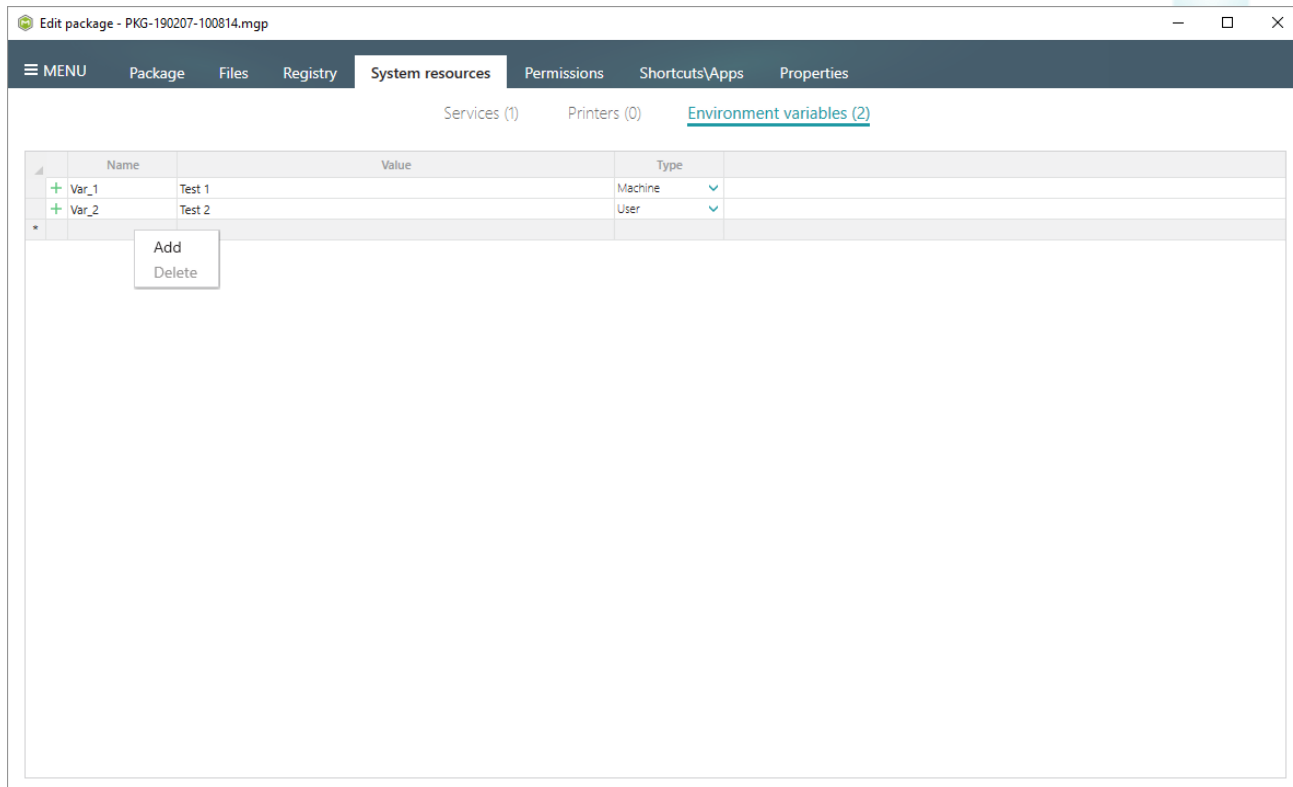
3.8.5.1 Add Environment Variable

Add a new environment variable to the project.

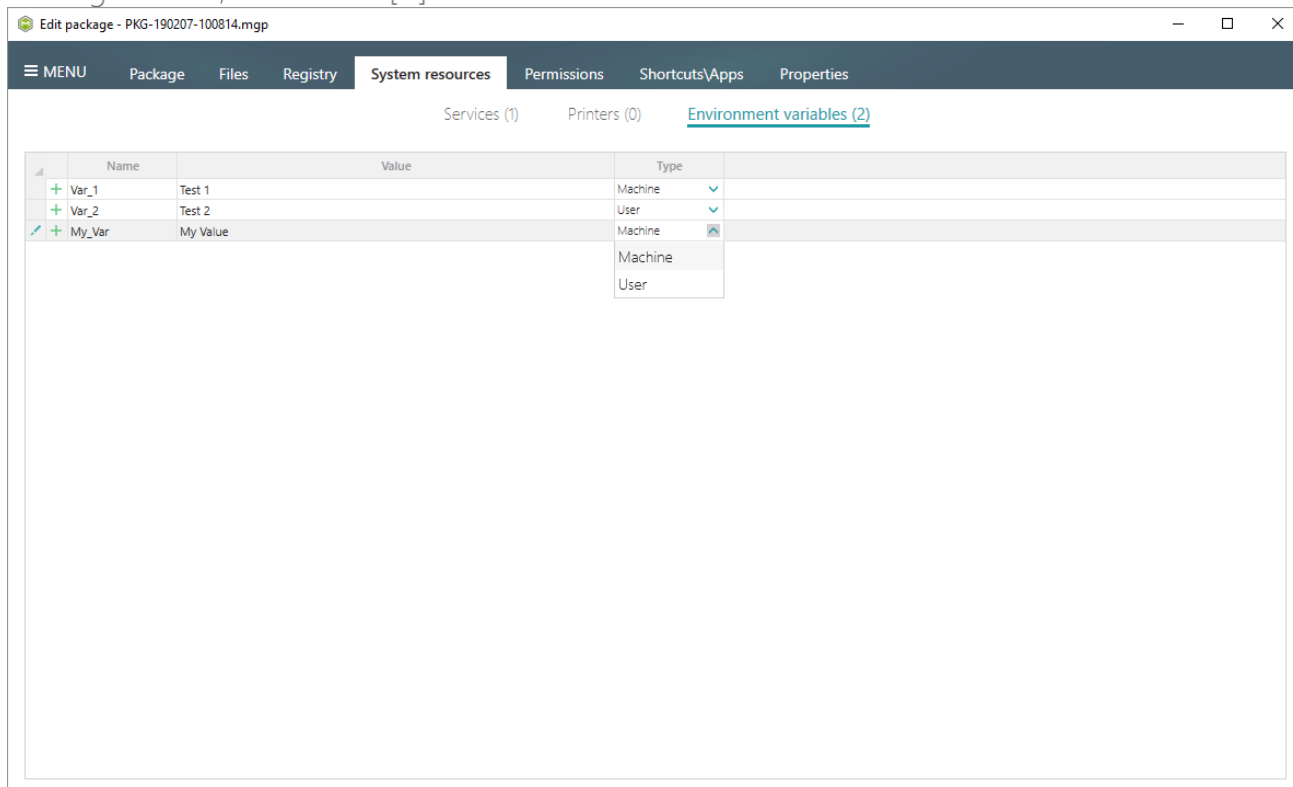
- Go to the **System resources** -> **Environment variables** tab.



- Select Add from the context menu.



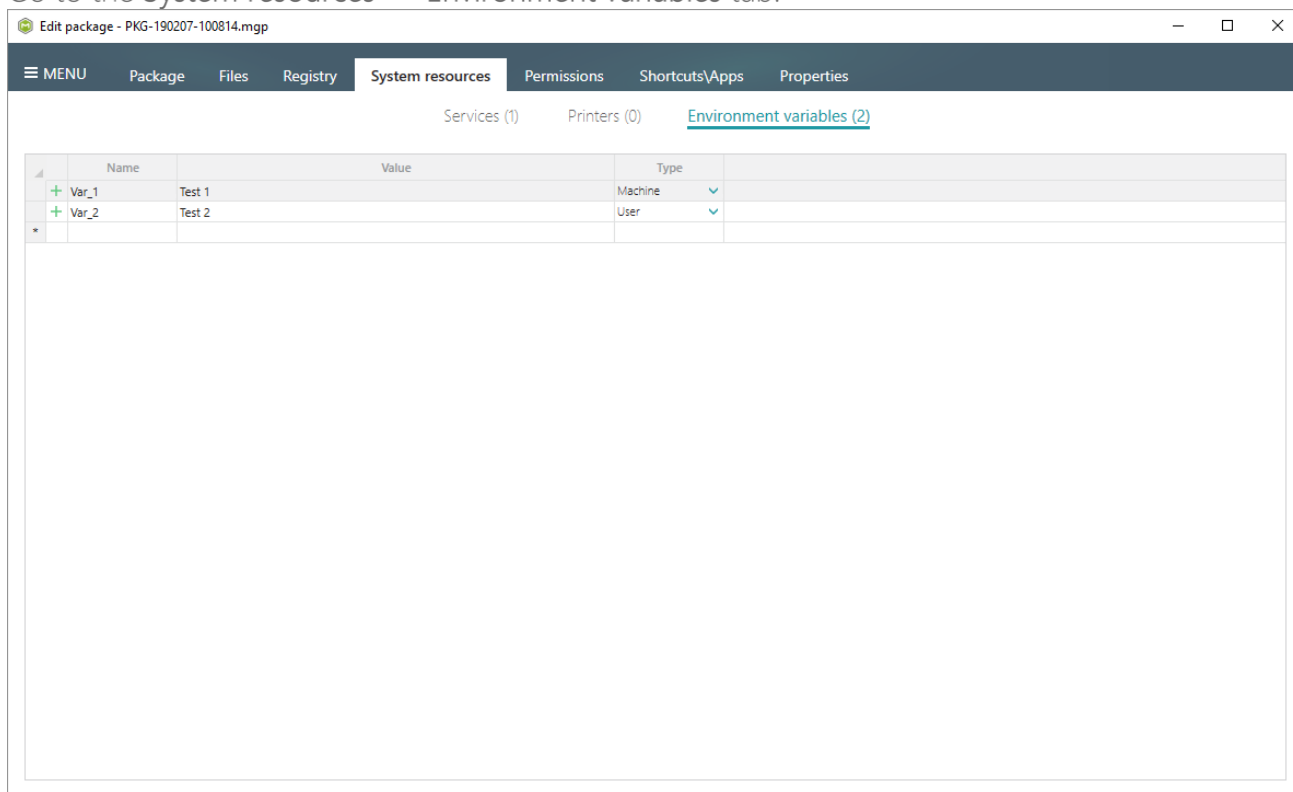
- Enter a variable name, value and choose its type: per-machine or per-user.
NOTE To append the entered value to the end of an existing variable, put the "[~];" string before your value (e.g. [~];Your value). To prefix the entered value to the front of an existing variable, put the ";[~]" string after your value (e.g. Your value;[~]). To replace a value of the existing variable, do not use [~].



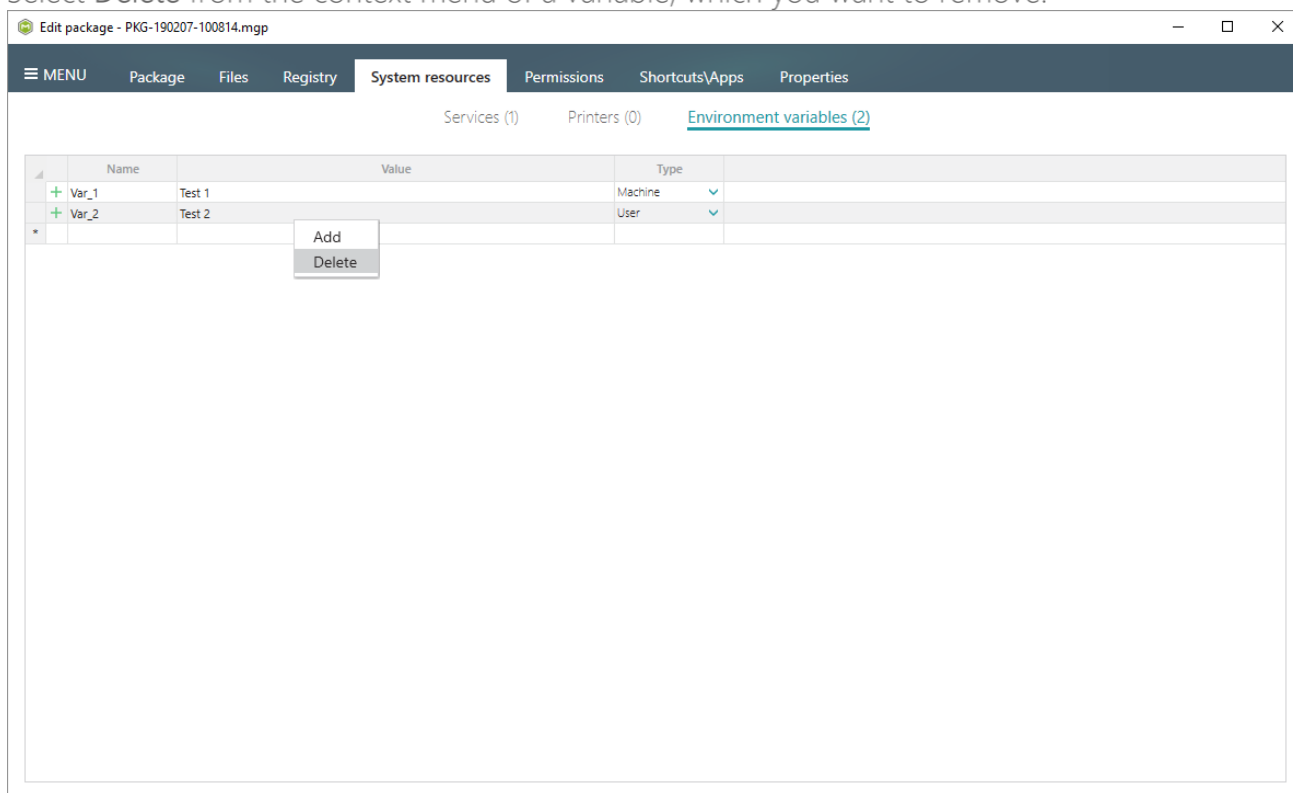
3.8.5.2 Remove Environment Variable

Remove an environment variable from the project.

- Go to the System resources -> Environment variables tab.



- Select Delete from the context menu of a variable, which you want to remove.



3.8.6 MSI Settings

Choose a scenario that better suits your needs:

- **Set Application Details**, described in section 3.8.6.1
Control how the package will be displayed in the App list (Add & Remove Programs).
- **Set INSTALLDIR**, described in section 3.8.6.2
Set a folder of the project as the INSTALLDIR.
- **Manage Shortcuts**, described in section 3.8.6.3
Exclude/include, import new ones and edit existing shortcuts.
- **Control File/Folder Permissions**, described in section 3.8.6.4
Control which of captured permission changes for files and folders will be included into the package.
- **Control Registry Permissions**, described in section 3.8.6.5
Control which of captured permission changes for files and folders will be included into the package.
- **Select Compression Type**, described in section 3.8.6.6
Select the compression type for the package files.
- **Use Advertising Tables**, described in section 3.8.6.7
Select which of MSI advertizing tables will be used for storing the capturing registry.
- **Add Active Setup**, described in section 3.8.6.8
Intergrate the Active Setup to the MSI package automatically, if it contains per-user data.
- **Set Summary Information**, described in section 3.8.6.9
Set the default Summary Information values, which will be saved to each created MSI package.

3.8.6.1 Set Application Details

Control how the package will be displayed in the App list (Add & Remove Programs).

- Go to the Package -> MSI tab.

- Set application details such as application name (product name), version, publisher, language, package and upgrade codes.

3.8.6.2 Set INSTALLDIR

Set a folder of the project as the INSTALLDIR. This means that an identifier of the selected folder will be set to the 'INSTALLDIR' value. Usually, the INSTALLDIR property represents the main product installation folder, and you can re-define this path via the command line or a Custom Action.

- Go to the Package -> MSI tab.

Edit package - PKG-190207-100814.mgp

MSI | MST | UWP | APPV | THINAPP

Application Details

Application name: Firefox

Publisher: Mozilla

Version: 63.0.3 | Product language: 1033

Product code: [EA264AF8-6B26-43FC-AD41-1012896D4FE6] | New GUID...

Upgrade code: [C39AE7E2-697A-419E-81D8-3622C129E713] | New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database | Subject:

Author: | Keywords: Install, MSI

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

Platform: Autodetect | Languages: 0

MSI Package Options

MSI settings profile: default | Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 | Browse... | Go to...

MSI CodePage: 0 | Neutral

INSTALLDIR:

BUILD LOG | Detected MSI installations | Open log

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

Elapsed time: 00:00

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

- Select the INSTALLDIR path from the list.

Edit package - PKG-190207-100814.mgp

MSI | MST | UWP | APPV | THINAPP

Application Details

Application name: Firefox

Publisher: Mozilla

Version: 63.0.3 | Product language: 1033

Product code: [EA264AF8-6B26-43FC-AD41-1012896D4FE6] | New GUID...

Upgrade code: [C39AE7E2-697A-419E-81D8-3622C129E713] | New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database | Subject:

Author: | Keywords: Install, MSI

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

Platform: Autodetect | Languages: 0

MSI Package Options

MSI settings profile: default | Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 | Browse... | Go to...

MSI CodePage: 0 | Neutral

INSTALLDIR: C:\Program Files (x86)\Mozilla Firefox

BUILD LOG | Detected MSI installations | Open log

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

Elapsed time: 00:00

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

3.8.6.3 Manage Shortcuts

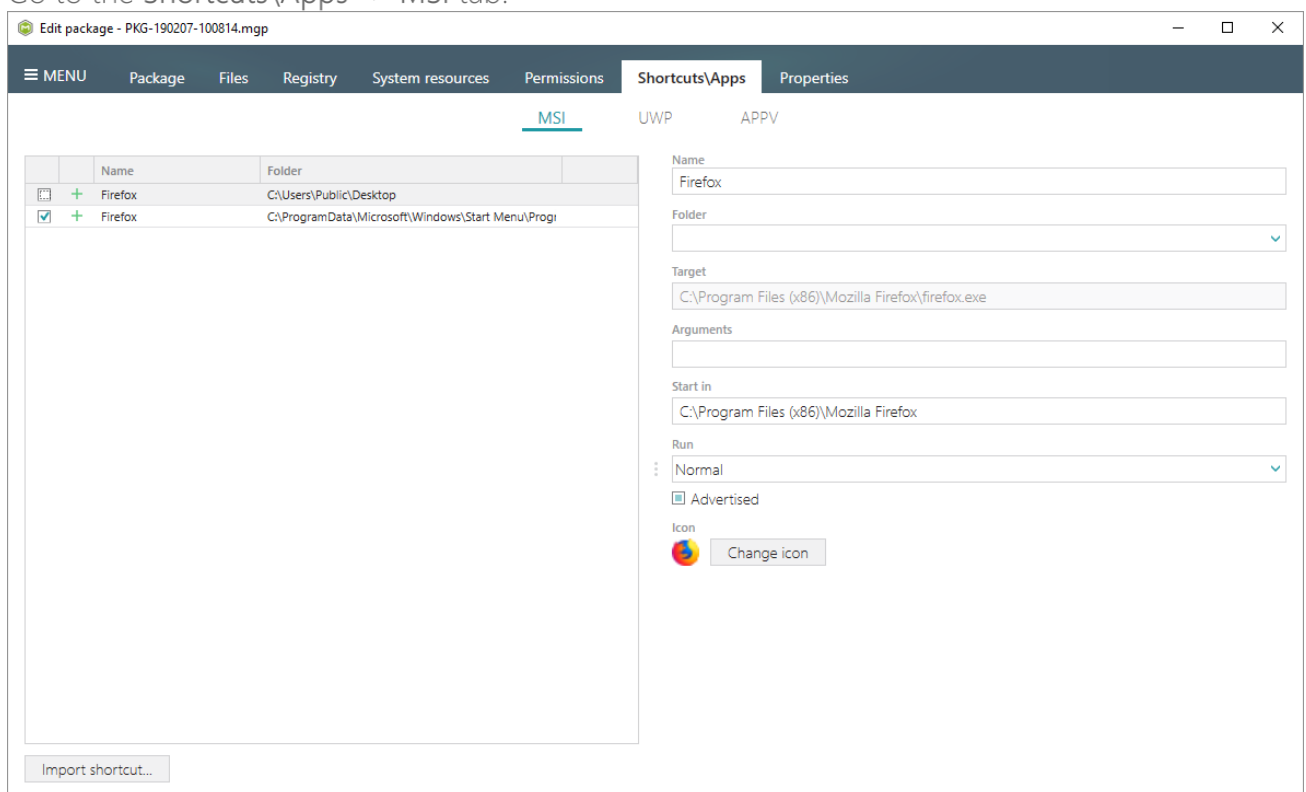
Choose a scenario that better suits your needs:

- **Exclude Shortcut**, described in section 3.8.6.3.1
Exclude the unnecessary shortcuts from the project
- **Include Excluded Shortcut**, described in section 3.8.6.3.2
Include the necessary shortcuts, previously excluded from the project.
- **Edit Shortcut**, described in section 3.8.6.3.3
Edit the shortcut detail such as name, destination folder, shortcut type, icon, etc.
- **Import Shortcut**, described in section 3.8.6.3.4
Import shortcuts from the file system to the project.

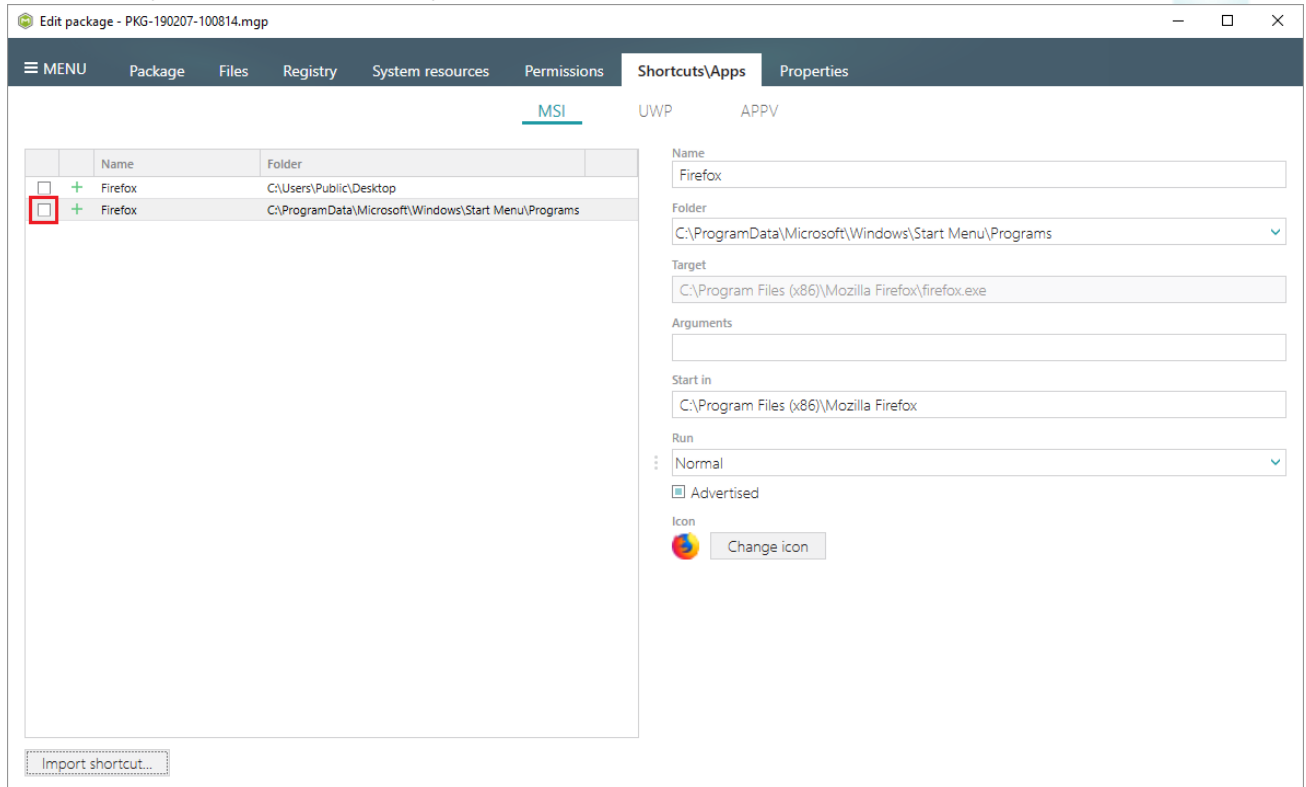
3.8.6.3.1 Exclude Shortcut

Exclude the unnecessary shortcuts from the project.

- Go to the Shortcuts\Apps -> MSI tab.



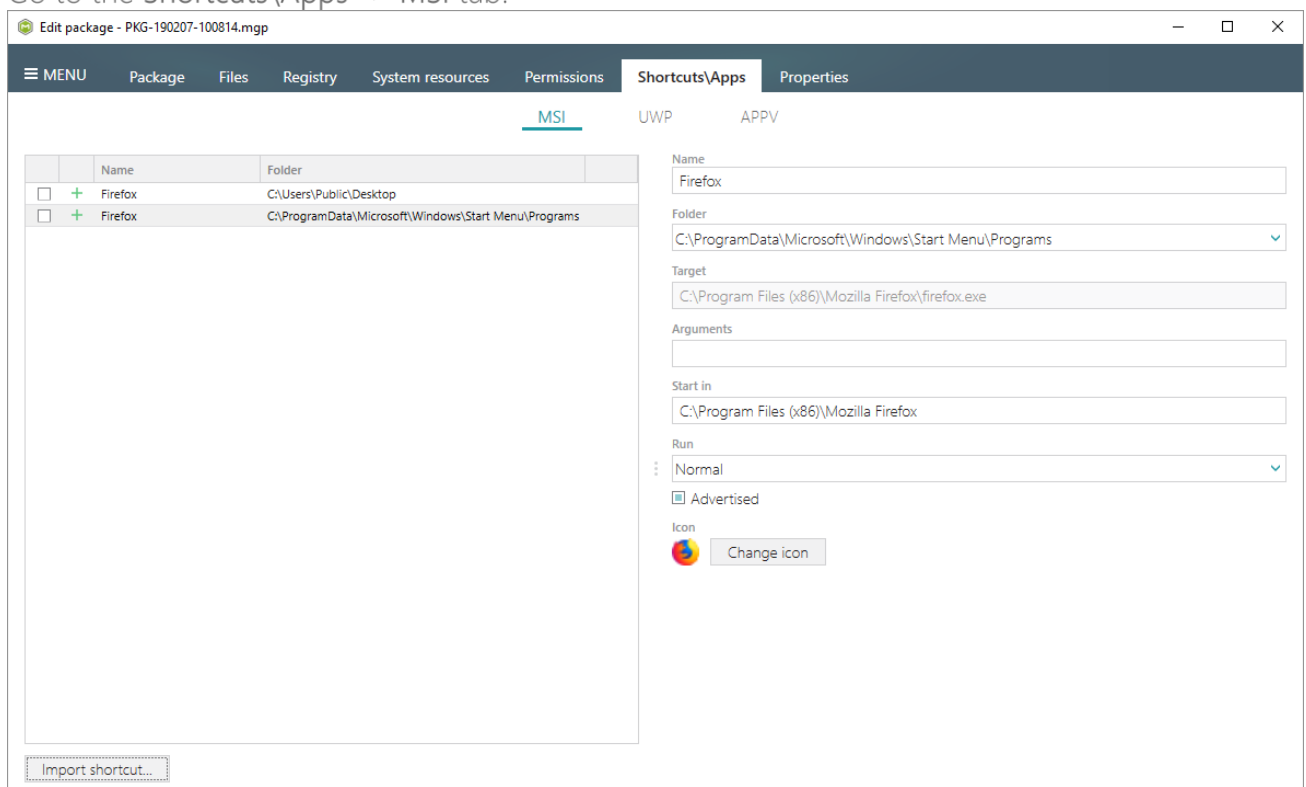
- To exclude, untick the checkbox, located before the shortcut name.



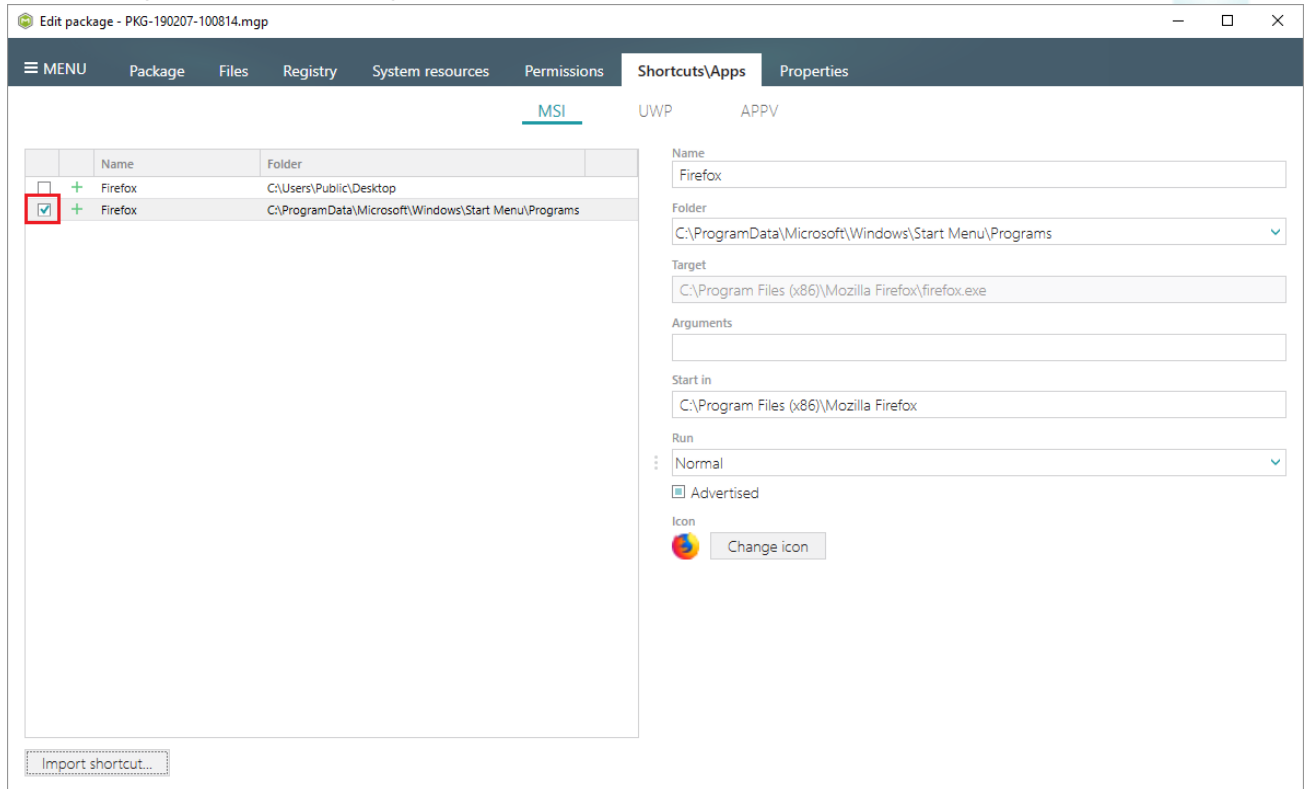
3.8.6.3.2 Include Excluded Shortcut

Include the necessary shortcuts, previously excluded from the project.

- Go to the Shortcuts\Apps -> MSI tab.



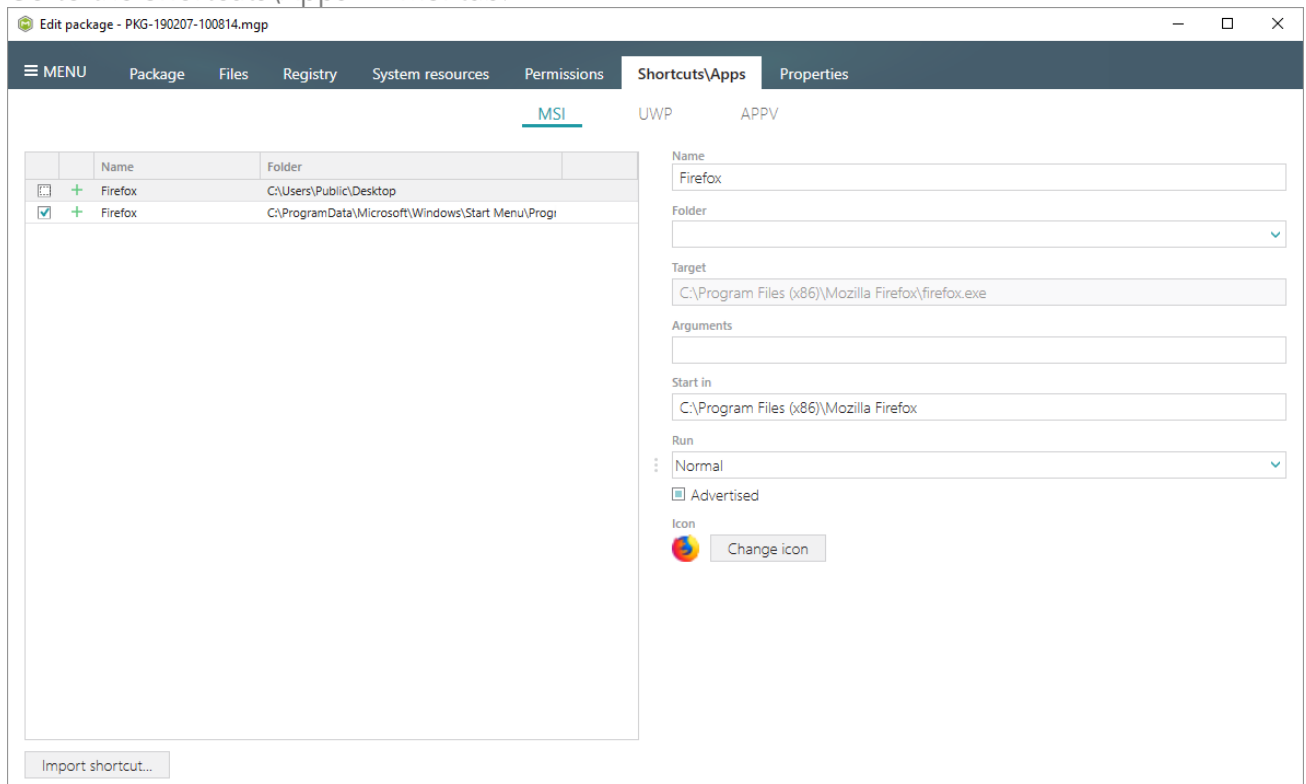
- To include, tick the checkbox, located before the shortcut name.



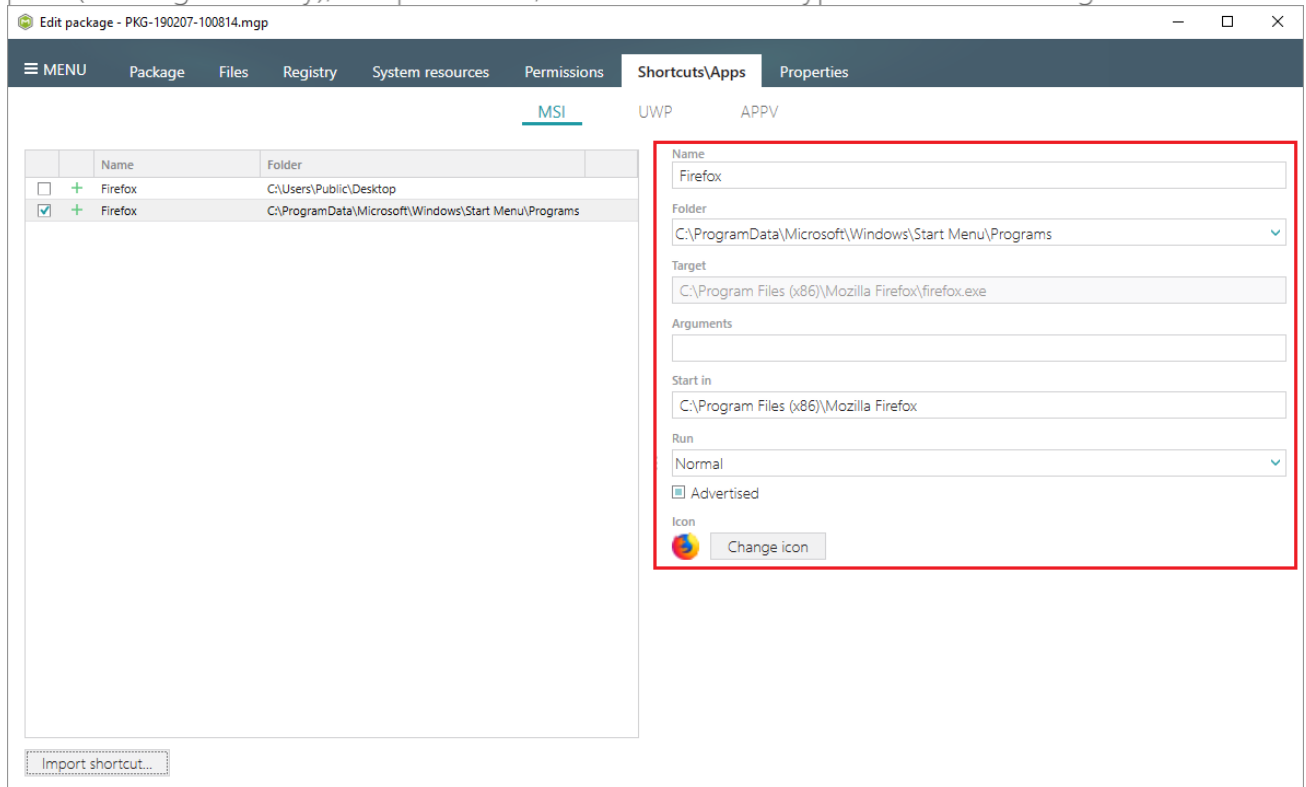
3.8.6.3.3 Edit Shortcut

Edit the shortcut detail such as name, destination folder, shortcut type, icon, etc.

- Go to the Shortcuts\Apps -> MSI tab.



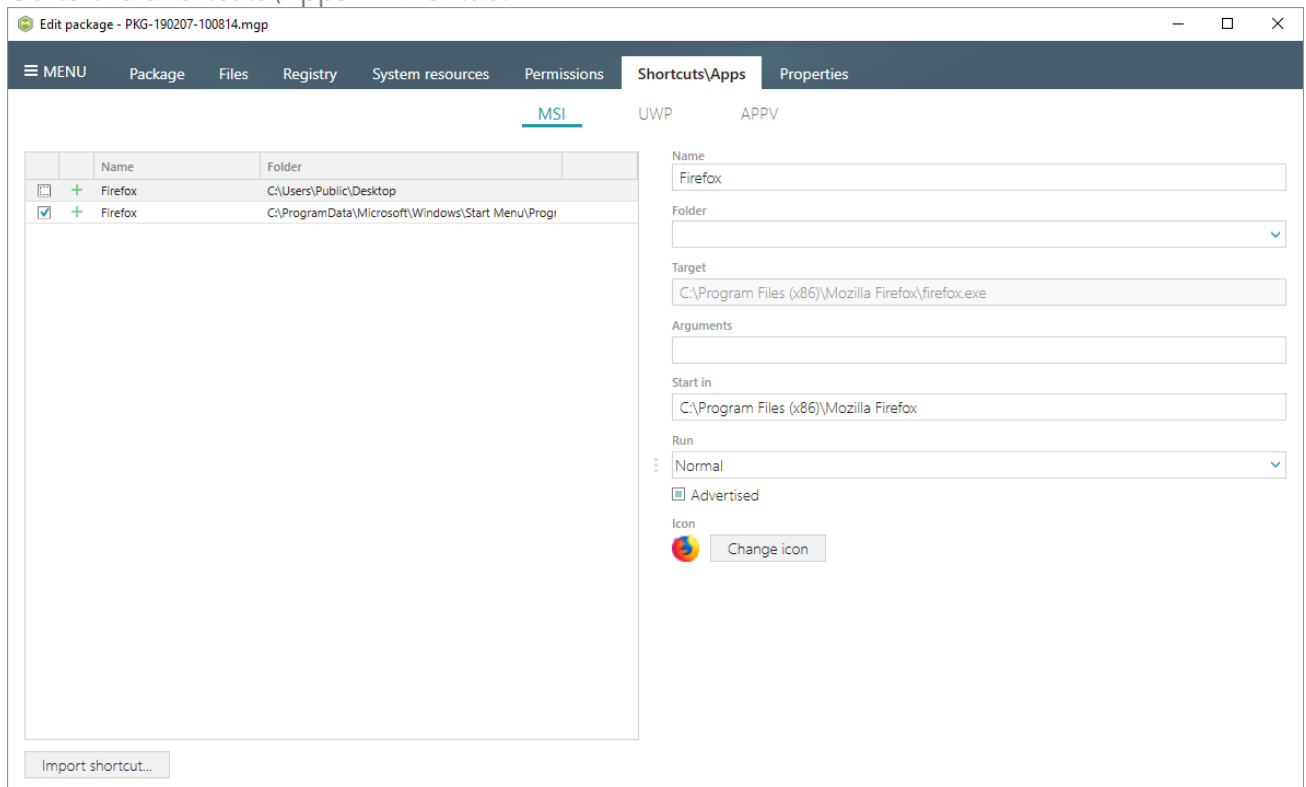
- Update the necessary values such as shortcut name, its destination folder, arguments, start in path (working directory), run parameter, icon and shortcut type: advertised or regular.



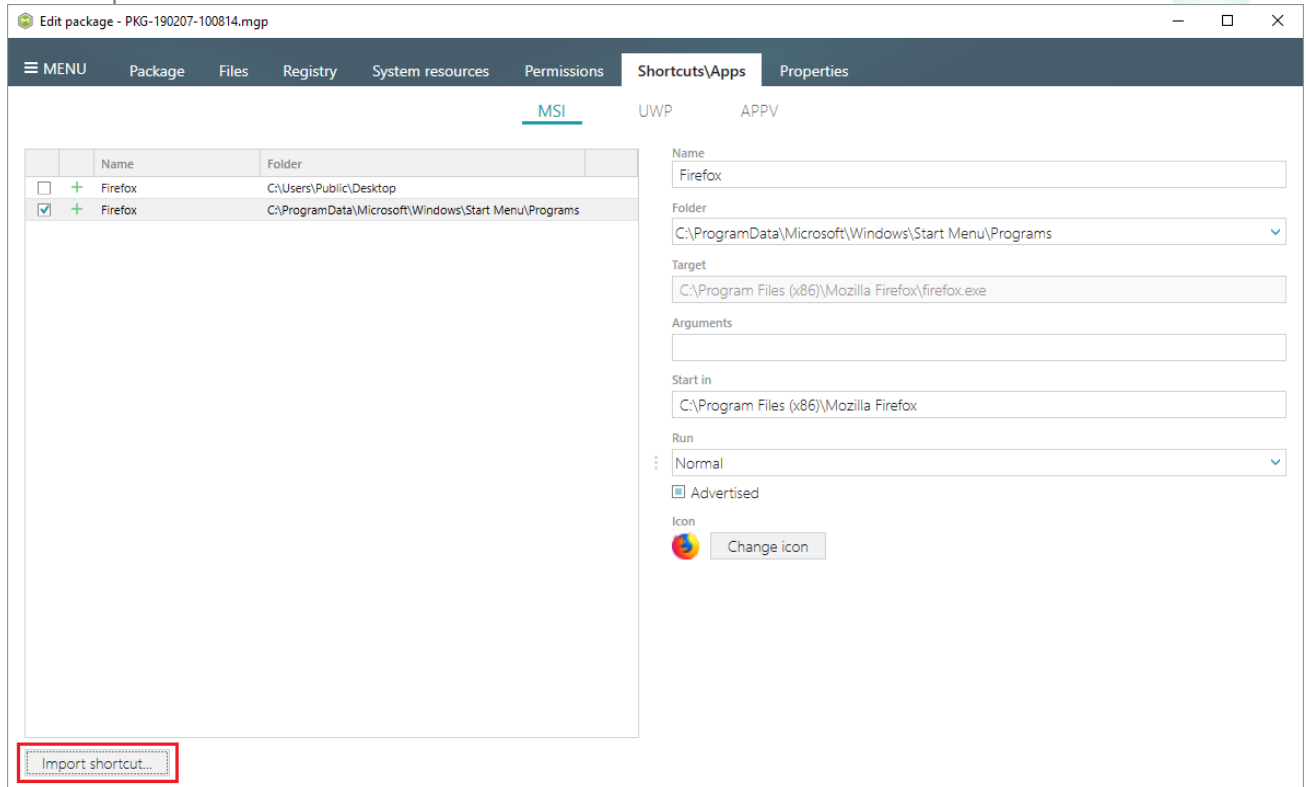
3.8.6.3.4 Import Shortcut

Import shortcuts from the file system to the project.

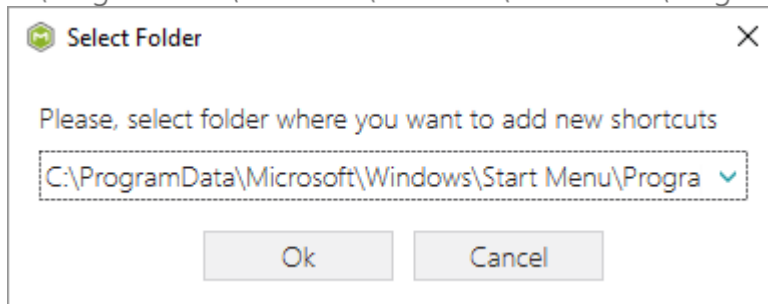
- Go to the Shortcuts\Apps -> MSI tab.



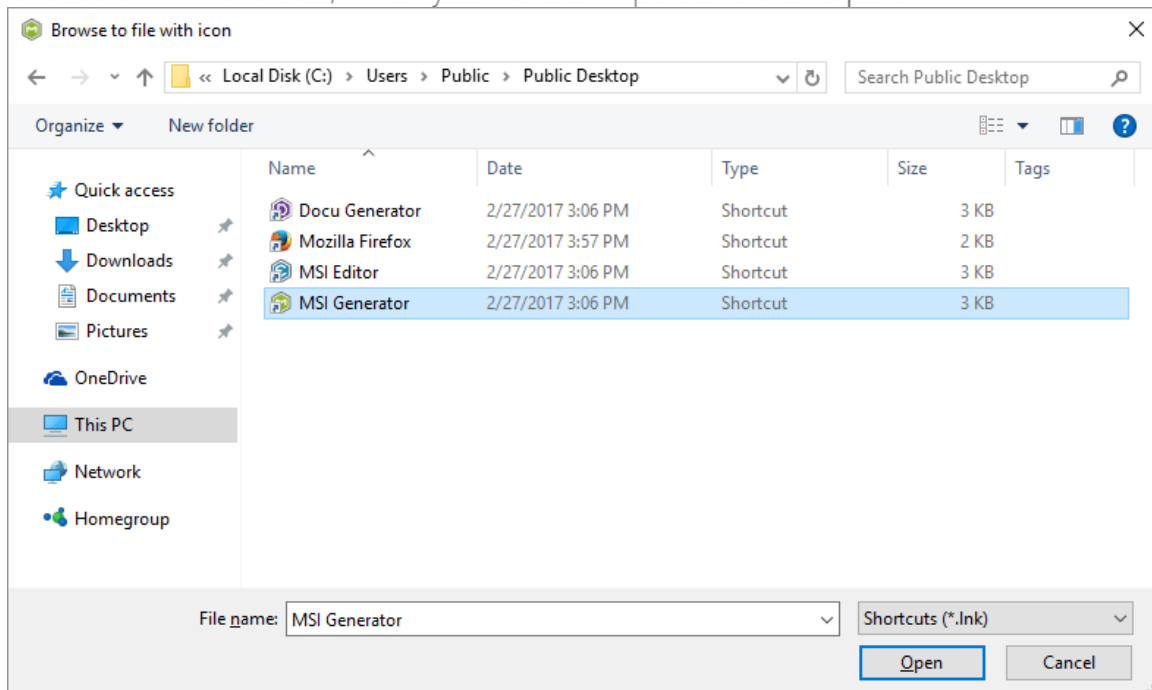
- Click Import shortcuts...



- Select a folder, to which you want to import shortcuts and click Ok.
NOTE To install a shortcut to the Start menu program, select the C:\ProgramData\Microsoft\Windows\Start Menu\Programs path.



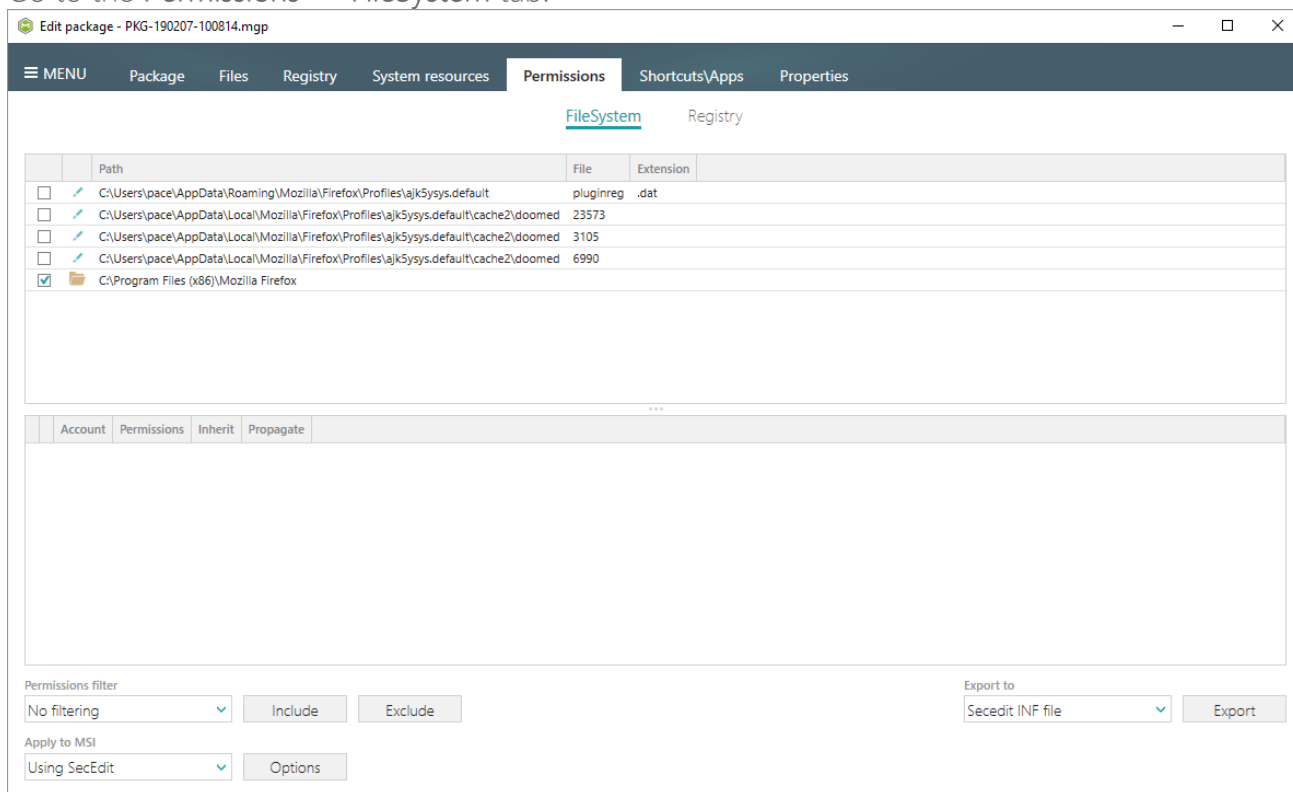
- Choose an LNK shortcut, which you want to import and click Open.



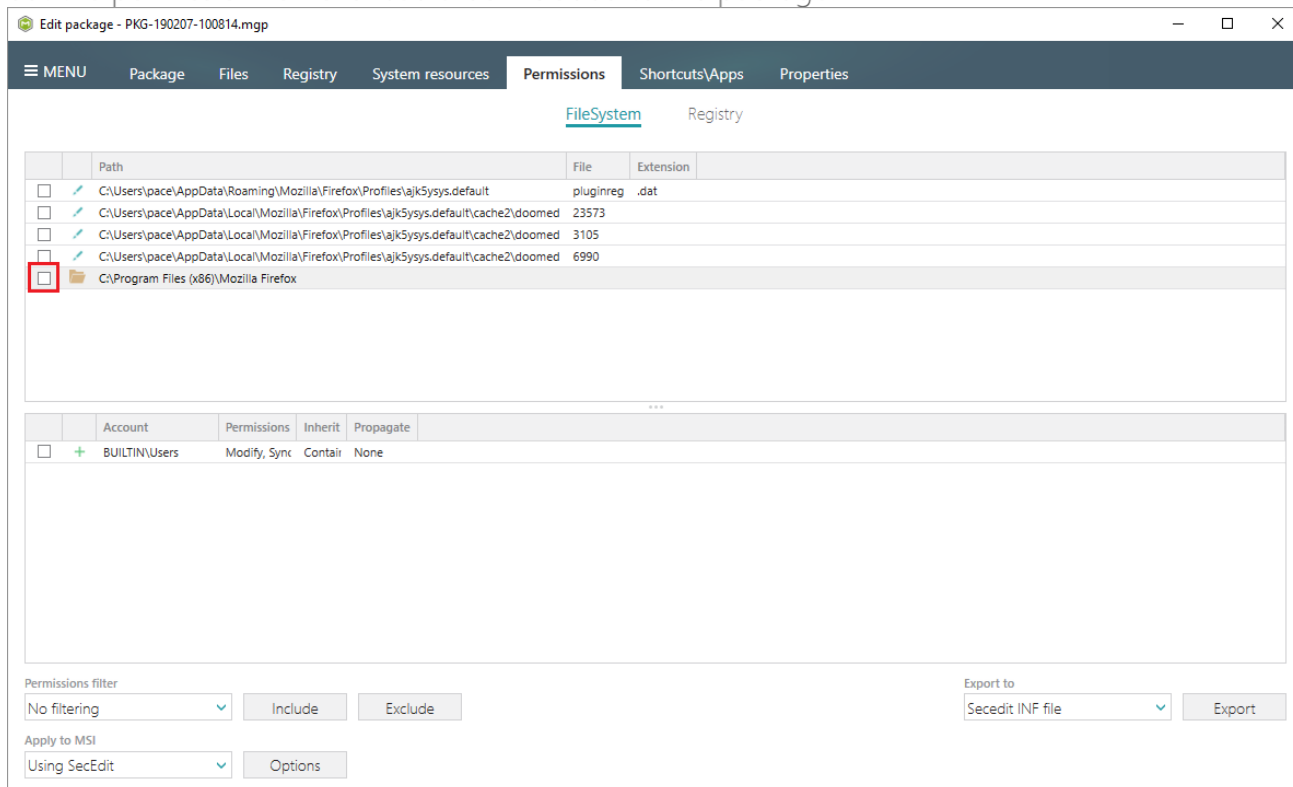
3.8.6.4 Control File/Folder Permissions

Control which of captured permission changes for files and folders will be included into the package.

- Go to the Permissions -> FileSystem tab.



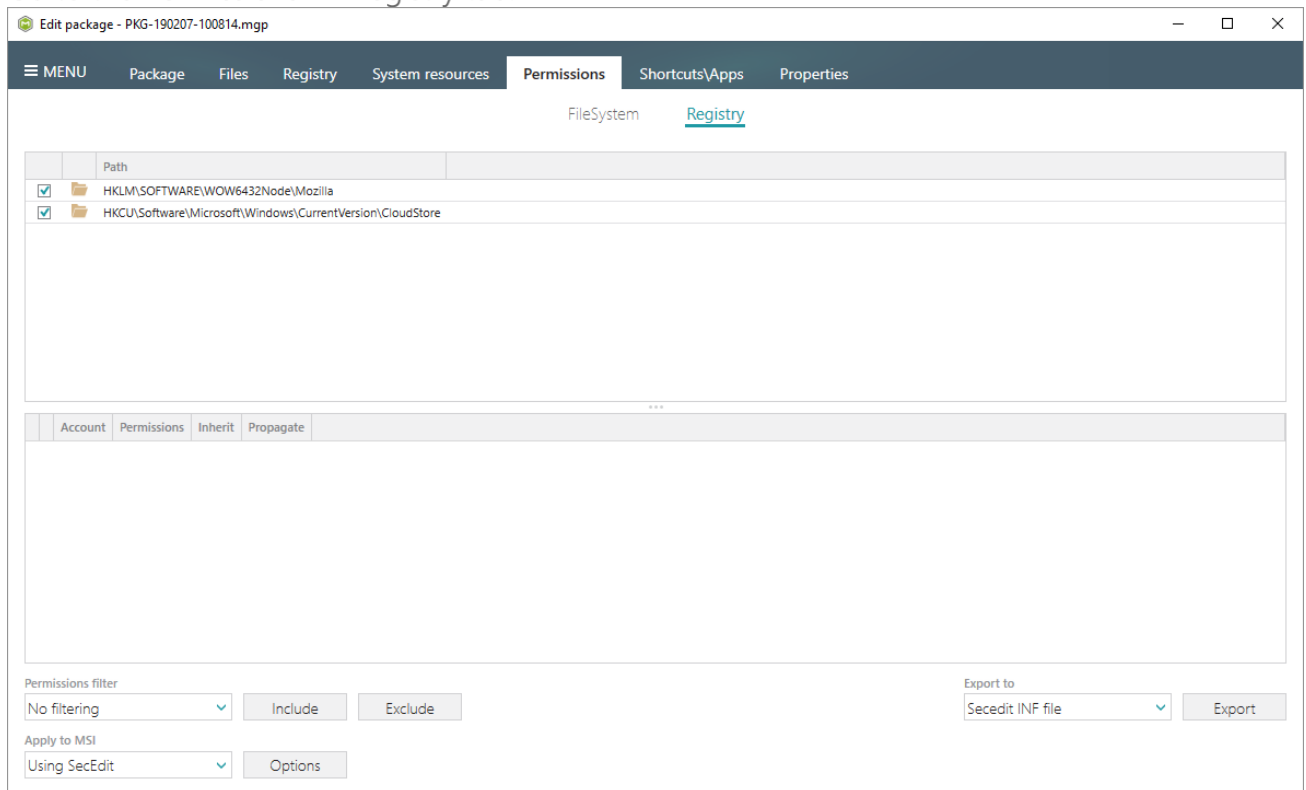
- To exclude the unnecessary permissions, untick the checkbox, located before the path. Respectively, to include the necessary permission, tick the checkbox back.
NOTE If permissions were removed during the capturing, they also will be displayed in the list, but the permission removal could be included to the package.



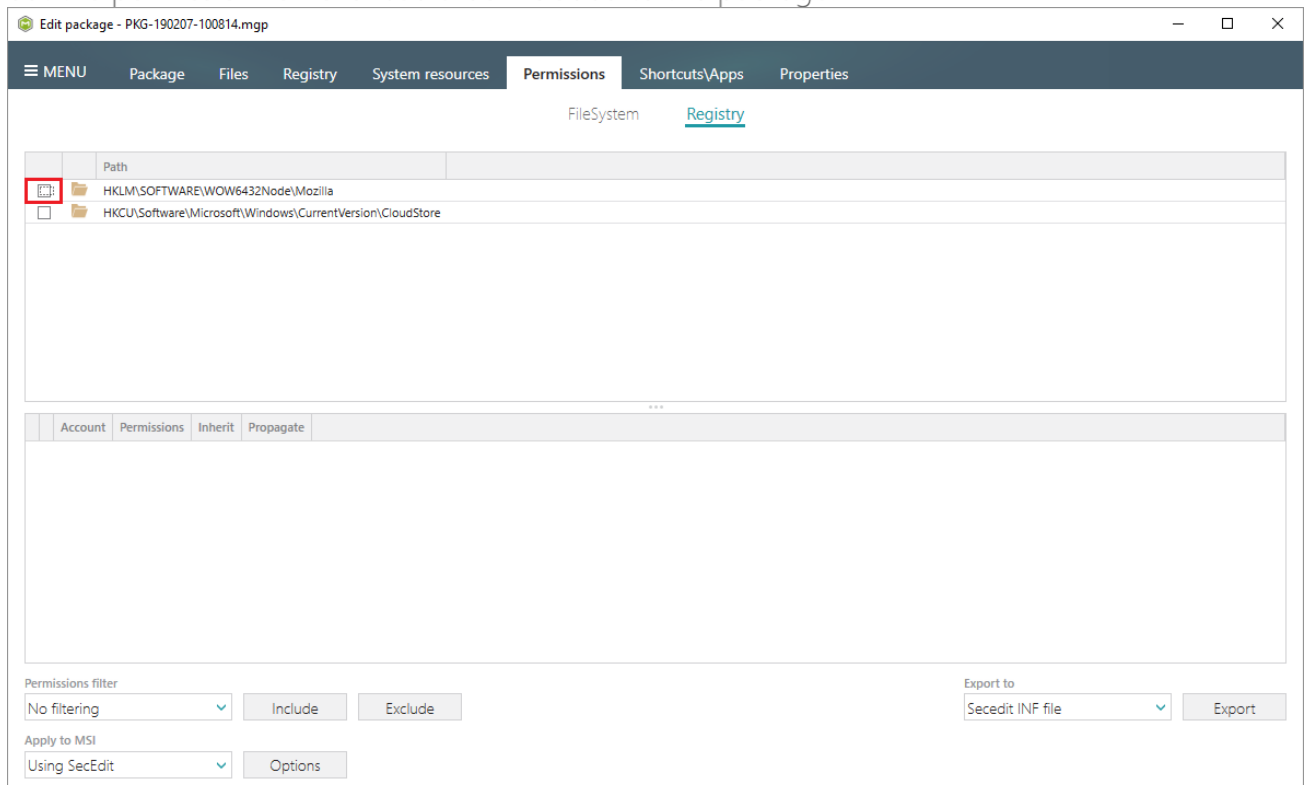
3.8.6.5 Control Registry Permissions

Control which of captured permission changes for registry keys will be included into the package.

- Go to the Permissions -> Registry tab.



- To exclude the unnecessary permissions, untick the checkbox, located before the registry path. Respectively, to include the necessary permission, tick the checkbox back.
NOTE If permissions were removed during the capturing, they also will be displayed in the list, but the permission removal could be included to the package.



3.8.6.6 Select Compression Type

Select the compression type for the package files.

- Go to the Package -> MSI tab.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP APPV THINAPP

Application Details

Application name: Firefox

Publisher: Mozilla

Version: 63.0.3 Product language: 1033

Product code: {EA264AF8-6B26-43FC-AD41-1012896D4FE6} New GUID...

Upgrade code: {C39AE7E2-697A-419E-81D8-3622C129E713} New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database Subject:

Author: Keywords: Install, MSI

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

Platform: Autodetect Languages: 0

MSI Package Options

MSI settings profile: default Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 Browse... Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

BUILD LOG Detected MSI installations Open log

Type	Elapsed	Step

Elapsed time: 00:00

Open MSI Build MSI

- Click Edit, located next to the MSI settings profile field.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP APPV THINAPP

Application Details

Application name: Firefox

Publisher: Mozilla

Version: 63.0.3 Product language: 1033

Product code: {EA264AF8-6B26-43FC-AD41-1012896D4FE6} New GUID...

Upgrade code: {C39AE7E2-697A-419E-81D8-3622C129E713} New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database Subject:

Author: Keywords: Install, MSI

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

Platform: Autodetect Languages: 0

MSI Package Options

MSI settings profile: default Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 Browse... Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

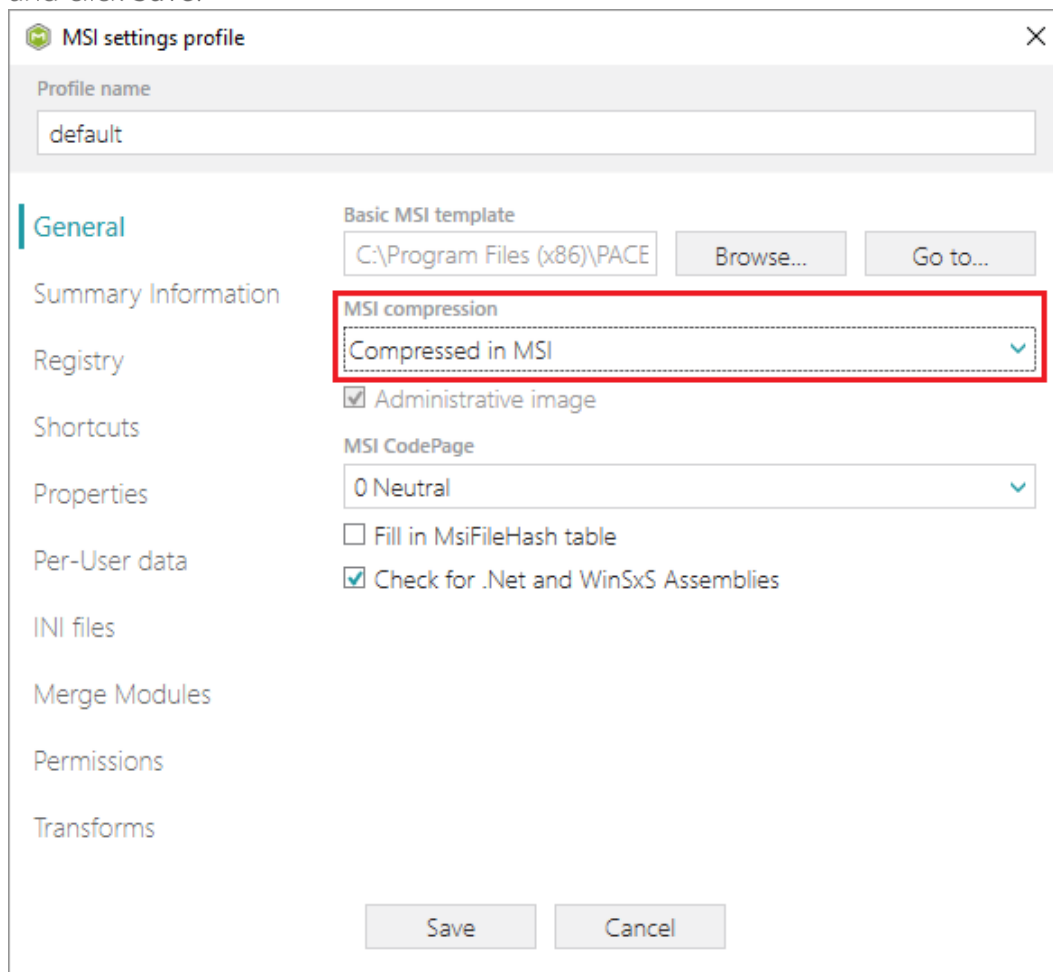
BUILD LOG Detected MSI installations Open log

Type	Elapsed	Step

Elapsed time: 00:00

Open MSI Build MSI

- On the General tab, select the necessary compression type from the MSI compression field and click Save.



MSI settings profile

Profile name: default

General

Basic MSI template: C:\Program Files (x86)\PACE [Browse...] [Go to...]

MSI compression: Compressed in MSI

☒ Administrative image

MSI CodePage: 0 Neutral

☐ Fill in MsiFileHash table

☒ Check for .Net and WinSxS Assemblies

[Save] [Cancel]

3.8.6.7 Use Advertising Tables

Select which of MSI advertizing tables will be used for storing the capturing registry.

- Go to the Package -> MSI tab.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP APPV THINAPP

Application Details

Application name: Firefox

Publisher: Mozilla

Version: 63.0.3 Product language: 1033

Product code: {EA264AF8-6B26-43FC-AD41-1012896D4FE6} New GUID...

Upgrade code: {C39AE7E2-697A-419E-81D8-3622C129E713} New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database Subject:

Author: Keywords: Install, MSI

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

Platform: Autodetect Languages: 0

MSI Package Options

MSI settings profile: default Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 Browse... Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

BUILD LOG Detected MSI installations Open log

Type	Elapsed	Step

Elapsed time: 00:00

Open MSI Build MSI

- Click Edit, located next to the MSI settings profile field.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP APPV THINAPP

Application Details

Application name: Firefox

Publisher: Mozilla

Version: 63.0.3 Product language: 1033

Product code: {EA264AF8-6B26-43FC-AD41-1012896D4FE6} New GUID...

Upgrade code: {C39AE7E2-697A-419E-81D8-3622C129E713} New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database Subject:

Author: Keywords: Install, MSI

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

Platform: Autodetect Languages: 0

MSI Package Options

MSI settings profile: default Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 Browse... Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

BUILD LOG Detected MSI installations Open log

Type	Elapsed	Step

Elapsed time: 00:00

Open MSI Build MSI

- Go to the Registry tab and tick the advertizing tables, which you want to use for storing the captured registry. Afterwards, click Save.

NOTE The use of [TypeLib table](#) is not recommended.

MSI settings profile [X]

Profile name
default

General
Summary Information
Registry
Shortcuts
Properties
Per-User data
INI files
Merge Modules
Permissions
Transforms

Use MSI advertizing tables

<input checked="" type="checkbox"/> Appld	<input checked="" type="checkbox"/> Extension	<input checked="" type="checkbox"/> ProgId	<input checked="" type="checkbox"/> Verb
<input checked="" type="checkbox"/> Class	<input checked="" type="checkbox"/> MIME	<input type="checkbox"/> TypeLib	

Use ODBC Table

☐ ODBC data sources

i Enabling this option may cause an error during installation in some cases (e.g. if an ODBC driver is not found on the system or if a database is not accessible).

Services

Install services by
ServiceInstall table [v]

Save Cancel

3.8.6.8 Add Active Setup

Intergrate the Active Setup to the MSI package automatically, if it contains per-user data.

- Go to the Package -> MSI tab.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP APPV THINAPP

Application Details

Application name: Firefox

Publisher: Mozilla

Version: 63.0.3 Product language: 1033

Product code: {EA264AF8-6B26-43FC-AD41-1012896D4FE6} New GUID...

Upgrade code: {C39AE7E2-697A-419E-81D8-3622C129E713} New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database Subject:

Author: Keywords: Install, MSI

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

Platform: Autodetect Languages: 0

MSI Package Options

MSI settings profile: default Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 Browse... Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

BUILD LOG Detected MSI installations Open log

Type	Elapsed	Step

Elapsed time: 00:00

Open MSI Build MSI

- Click Edit, located next to the MSI settings profile field.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP APPV THINAPP

Application Details

Application name: Firefox

Publisher: Mozilla

Version: 63.0.3 Product language: 1033

Product code: {EA264AF8-6B26-43FC-AD41-1012896D4FE6} New GUID...

Upgrade code: {C39AE7E2-697A-419E-81D8-3622C129E713} New GUID...

☒ Generate new codes when build MSI

Summary Information

Title: Installation Database Subject:

Author: Keywords: Install, MSI

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

Platform: Autodetect Languages: 0

MSI Package Options

MSI settings profile: default Edit

MSI file name: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 Browse... Go to...

MSI CodePage: 0 Neutral

INSTALLDIR:

BUILD LOG Detected MSI installations Open log

Type	Elapsed	Step

Elapsed time: 00:00

Open MSI Build MSI

- Go to the Per-User data tab and tick the Use Active Setup for storing peruser data option. Then click Save.

NOTE If the project contains per-user data, the Active Setup will be automatically integrated.

The screenshot shows the 'MSI settings profile' dialog box with the 'Per-User data' tab selected. The 'Profile name' is 'default'. The 'User-Part feature name' is 'UserPart' and the 'User-Part component name' is 'CurrentUser'. Three checkboxes are visible: 'Use Active Setup for storing peruser data' (checked and highlighted with a red box), 'Do not create empty folder under user profile' (checked), and 'Do not add folder under user profile to RemoveFile table' (checked). The 'Save' button is highlighted with a dashed border. The 'Cancel' button is also visible.

Category	Field/Option	Value/Status
Profile name	Profile name	default
General	User-Part feature name	UserPart
Summary Information	User-Part component name	CurrentUser
Registry	Use Active Setup for storing peruser data	<input checked="" type="checkbox"/>
Shortcuts	Do not create empty folder under user profile	<input checked="" type="checkbox"/>
Properties	Do not add folder under user profile to RemoveFile table	<input checked="" type="checkbox"/>
Per-User data	Save button	Enabled (dashed border)
INI files		
Merge Modules		
Permissions		
Transforms		

3.8.6.9 Set Summary Information

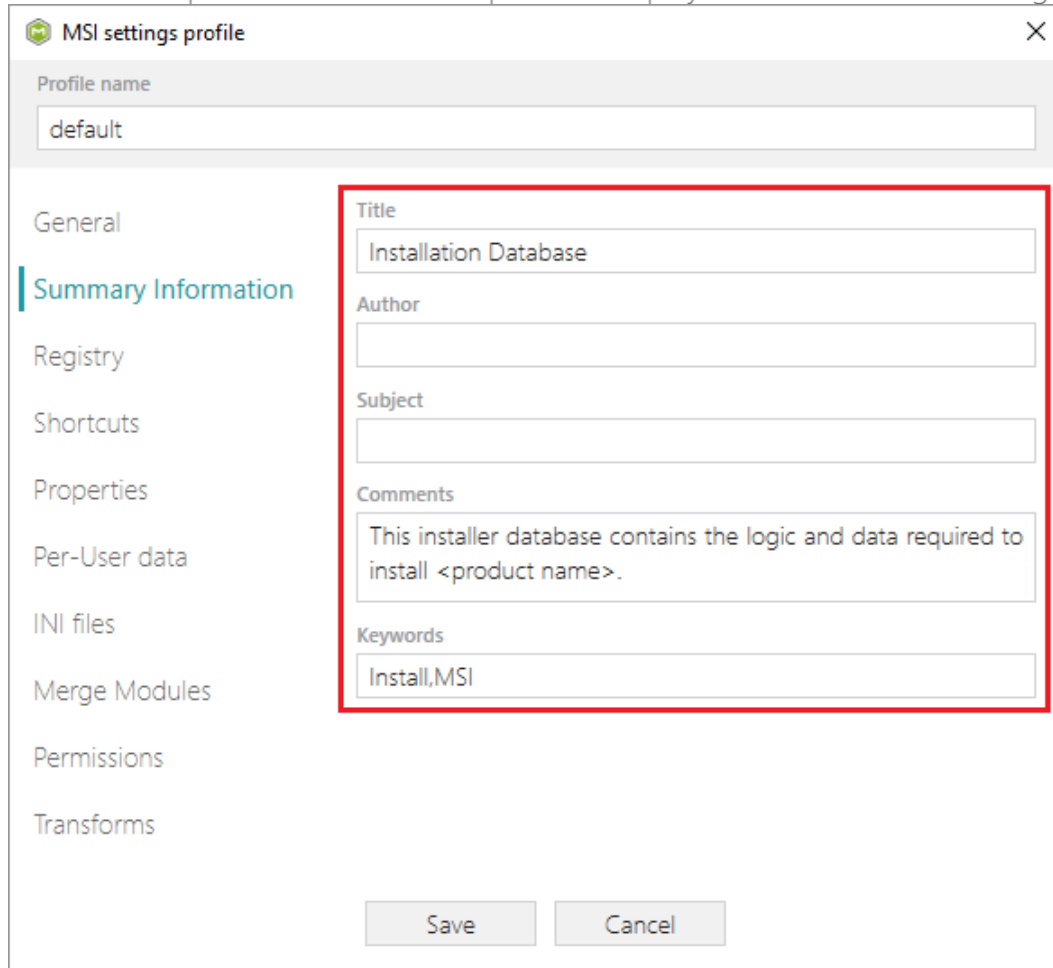
Set the default Summary Information values, which will be saved to each created MSI package.

- Go to the Package -> MSI tab.

- Click Edit, located next to the MSI settings profile field.

- Go the Summary Information tab and enter the default Summary Information values. Afterwards, click Save.
NOTE The specified Summary Information will be saved to each package, created with the use

of the edited profile. A name of the profile is displayed in the window heading.



The screenshot shows a window titled "MSI settings profile" with a close button (X) in the top right corner. Below the title bar, there is a "Profile name" field containing the text "default". On the left side, there is a vertical list of tabs: "General", "Summary Information" (which is highlighted with a blue bar), "Registry", "Shortcuts", "Properties", "Per-User data", "INI files", "Merge Modules", "Permissions", and "Transforms". The "Summary Information" tab is active, and its content is enclosed in a red rectangular box. This content includes the following fields:

- Title:** A text box containing "Installation Database".
- Author:** An empty text box.
- Subject:** An empty text box.
- Comments:** A text box containing "This installer database contains the logic and data required to install <product name>".
- Keywords:** A text box containing "Install,MSI".

At the bottom of the window, there are two buttons: "Save" and "Cancel".

3.8.7 MSIX/APPX Settings

Choose a scenario that better suits your needs:

- **Create Modification Package**, described in section 3.8.7.1
Create a modification package to customize the settings of the app, installed by main package.
- **Set Display Properties**, described in section 3.8.7.2
Control how your UWP app package will be displayed during the installation and the list of installed apps.
- **Set Identity Properties**, described in section 3.8.7.3
Define a globally unique identifier for your UWP package.
- **Declare Capabilities**, described in section 3.8.7.4
Declares the access to protected user resources that the package requires.
- **Set Supported Platforms**, described in section 3.8.7.5
Set the supported platforms (target device families) on which, the UWP package could be run.
- **Manage Package Architectures**, described in section 3.8.7.6
Select the processor architectures (x86, x64, ARM) on which you want to run your UWP package.
- **Create Bundle**, described in section 3.8.7.7
Combine the generated UWP packages into one single bundle.
- **Sign Package/Bundle**, described in section 3.8.7.8
Sign the generated package or bundle with a certificate for the testing purposes or distribution.
- **Edit Manifest Manually**, described in section 3.8.7.9
Edit the package manifest file(s) manually to modify existing or add new specific package settings.
- **Manage Apps and Visual Assets**, described in section 3.8.7.10
Include/exclude captured apps, add new ones and control their appearance settings such as logos, name, background color, etc.
- **Generate AppInstaller**, described in section 3.8.7.11
Generate the AppInstaller file for the non-Store distribution and automatic update of your UWP package.

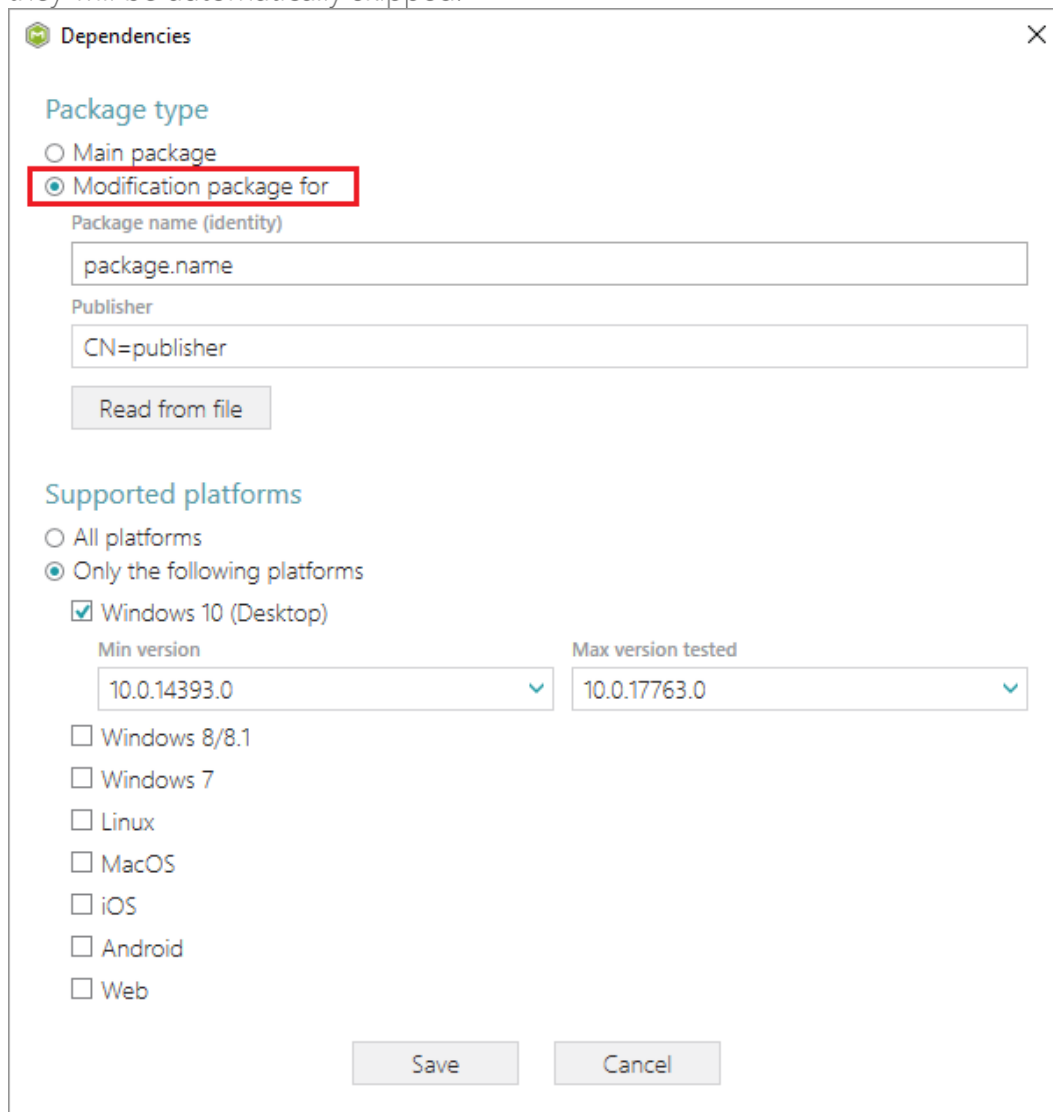
3.8.7.1 Create Modification Package

Create a modification package to customize the settings of the app, installed by main package. At runtime the application will view resources of both the main package and the modification package. For information, see [MSIX modification packages on Windows 10 version 1809](#) and [MSIX modification packages on Windows 10 Insider Preview Build 18312 and later](#).

- Go to the Package -> UWP tab.

- Click Edit dependencies.

- Select the **Modification package for** option and either enter a package identity name and publisher of the main package manually or click **Read from file** to get the necessary identity information from the main package automatically. Afterwards, click **Save**.
NOTE The modification package could not declare capabilities and contain apps, therefore they will be automatically skipped.



The image shows a 'Dependencies' dialog box with a close button (X) in the top right corner. It is divided into two main sections: 'Package type' and 'Supported platforms'.

Package type

- ☐ Main package
- ☒ Modification package for

Below the radio buttons are two text input fields:

- Package name (identity):** Contains the text 'package.name'.
- Publisher:** Contains the text 'CN=publisher'.

Below these fields is a button labeled 'Read from file'.

Supported platforms

- ☐ All platforms
- ☒ Only the following platforms

Under 'Only the following platforms', there is a list of operating systems with checkboxes:

- ☒ Windows 10 (Desktop)
- ☐ Windows 8/8.1
- ☐ Windows 7
- ☐ Linux
- ☐ MacOS
- ☐ iOS
- ☐ Android
- ☐ Web

For the 'Windows 10 (Desktop)' option, there are two dropdown menus:

- Min version:** Set to '10.0.14393.0'.
- Max version tested:** Set to '10.0.17763.0'.

At the bottom of the dialog are two buttons: 'Save' and 'Cancel'.

3.8.7.2 Set Display Properties

Control how your UWP app package will be displayed during the installation and the list of installed apps.


- Go to the Package -> UWP tab.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP APPV THINAPP

Display properties

Package logo (50x50)


Display name: Publisher display name:

Description:

Capabilities
 Declare access to the protected user resources.

Signature
 Sign the generated package/bundle.

Dependencies
 Specify package type (main/modification) and supported platforms.

Architectures & Bundle
 Set the compatible processor architectures and bundle options.

App Installer
 Generate the App Installer file to distribute and update your application with a single click.

UWP package options

Package format:

Application root folder:

☐ Interrupt building the package for manual editing the manifest

Project folder:

Package identity

Name: Publisher:

Version:

BUILD LOG

Type	Elapsed	Step

Elapsed time: 00:00 [Review the UWP application limitations...](#)


- Set a new icon, display name, publisher display name and description in the Display properties section.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP APPV THINAPP

Display properties

Package logo (50x50)


Display name: Publisher display name:

Description:

Capabilities
 Declare access to the protected user resources.

Signature
 Sign the generated package/bundle.

Dependencies
 Specify package type (main/modification) and supported platforms.

Architectures & Bundle
 Set the compatible processor architectures and bundle options.

App Installer
 Generate the App Installer file to distribute and update your application with a single click.

UWP package options

Package format:

Application root folder:

☐ Interrupt building the package for manual editing the manifest

Project folder:

Package identity

Name: Publisher:

Version:

BUILD LOG

Type	Elapsed	Step

Elapsed time: 00:00 [Review the UWP application limitations...](#)

3.8.7.3 Set Identity Properties

Define a globally unique identifier for your UWP package. A package identity is represented as a tuple of attributes of the package.


- Go to the Package -> UWP tab.

Edit package - PKG-190207-100814.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts/Apps | Properties

MSI | MST | **UWP** | APPV | THINAPP

Display properties

Package logo (50x50) 

Display name: Publisher display name:

Description:

Capabilities
Declare access to the protected user resources.

Dependencies
Specify package type (main/modification) and supported platforms.

App Installer
Generate the App Installer file to distribute and update your application with a single click.

Signature
Sign the generated package/bundle.

Architectures & Bundle
Set the compatible processor architectures and bundle options.

UWP package options

Package format:

Application root folder:

☐ Interrupt building the package for manual editing the manifest

Project folder:

Package identity

Name: Publisher:

Version:

BUILD LOG

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

Elapsed time: 00:00 [Review the UWP application limitations...](#)


- Update the necessary values in the Package identity section.

Edit package - PKG-190207-100814.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts/Apps | Properties

MSI | MST | **UWP** | APPV | THINAPP

Display properties

Package logo (50x50) 

Display name: Publisher display name:

Description:

Capabilities
Declare access to the protected user resources.

Dependencies
Specify package type (main/modification) and supported platforms.

App Installer
Generate the App Installer file to distribute and update your application with a single click.

Signature
Sign the generated package/bundle.

Architectures & Bundle
Set the compatible processor architectures and bundle options.

UWP package options

Package format:

Application root folder:

☐ Interrupt building the package for manual editing the manifest

Project folder:

Package identity

Name: Publisher:

Version:

BUILD LOG

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

Elapsed time: 00:00 [Review the UWP application limitations...](#)

3.8.7.4 Declare Capabilities

Declares the access to protected user resources that the package requires.

- Go to the Package -> UWP tab.

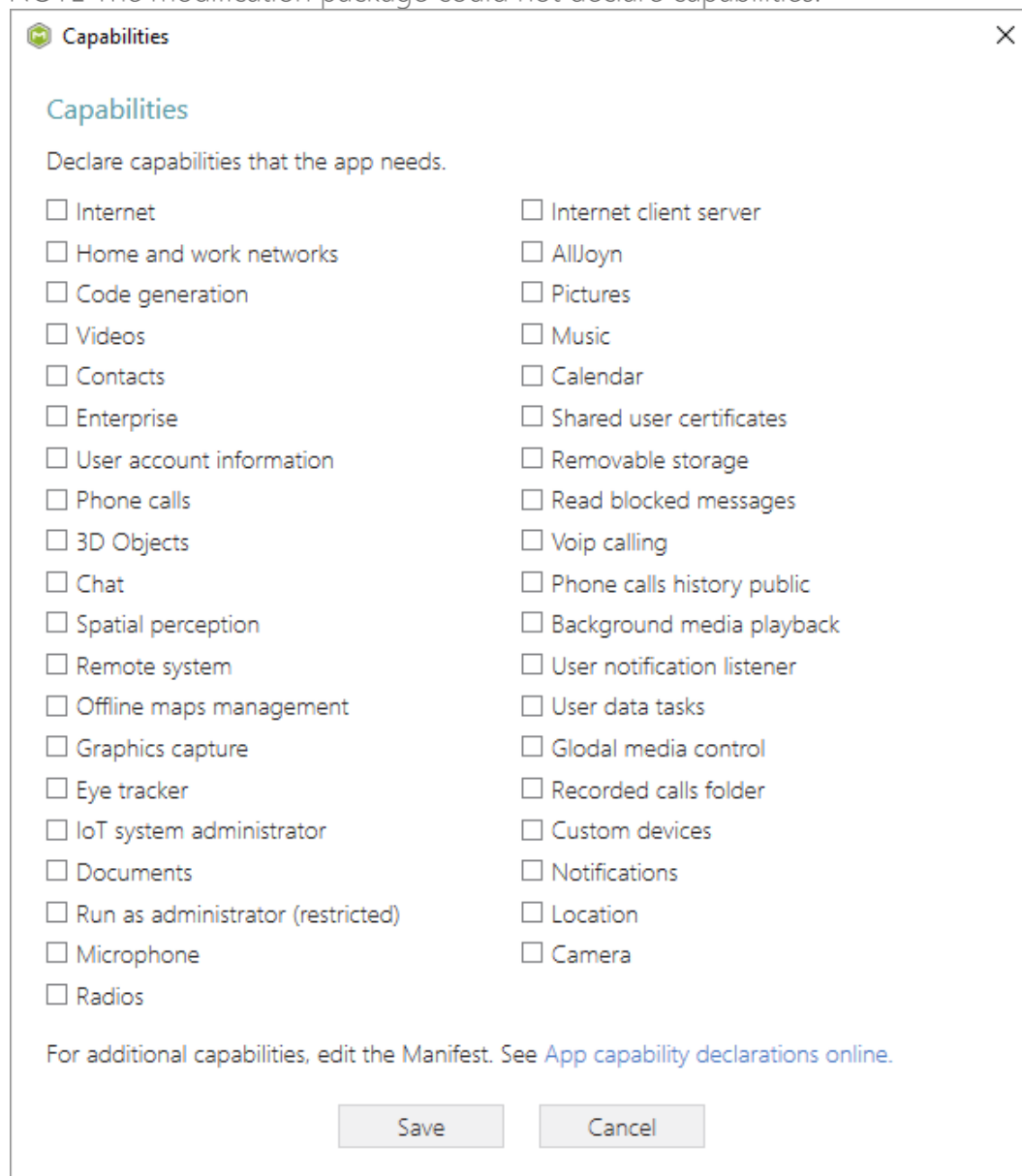
The screenshot shows the 'Edit package' window for 'PKG-190207-100814.mgp'. The 'UWP' tab is selected. The 'Capabilities' section is highlighted with a red box. The 'UWP package options' section shows 'Package format' as MSIX, 'Application root folder' as C:\Program Files (x86)\Mozilla Firefox, and 'Project folder' as C:\Users\pace\Documents\MSI Generator\Packages\PKG-1. The 'Package identity' section shows 'Name' as Firefox, 'Publisher' as CN=Mozilla, and 'Version' as 63.0.3.0. The 'BUILD LOG' section is empty. The 'Elapsed time' is 00:00. The 'Build UWP' button is visible.

- Click Edit capabilities.

The screenshot shows the 'Edit package' window for 'PKG-190207-100814.mgp'. The 'UWP' tab is selected. The 'Edit capabilities' button in the 'Capabilities' section is highlighted with a red box. The 'UWP package options' section shows 'Package format' as MSIX, 'Application root folder' as C:\Program Files (x86)\Mozilla Firefox, and 'Project folder' as C:\Users\pace\Documents\MSI Generator\Packages\PKG-1. The 'Package identity' section shows 'Name' as Firefox, 'Publisher' as CN=Mozilla, and 'Version' as 63.0.3.0. The 'BUILD LOG' section is empty. The 'Elapsed time' is 00:00. The 'Build UWP' button is visible.

- Select the necessary capabilities and click Save.

NOTE The modification package could not declare capabilities.



Capabilities

Declare capabilities that the app needs.

<input type="checkbox"/> Internet	<input type="checkbox"/> Internet client server
<input type="checkbox"/> Home and work networks	<input type="checkbox"/> AllJoyn
<input type="checkbox"/> Code generation	<input type="checkbox"/> Pictures
<input type="checkbox"/> Videos	<input type="checkbox"/> Music
<input type="checkbox"/> Contacts	<input type="checkbox"/> Calendar
<input type="checkbox"/> Enterprise	<input type="checkbox"/> Shared user certificates
<input type="checkbox"/> User account information	<input type="checkbox"/> Removable storage
<input type="checkbox"/> Phone calls	<input type="checkbox"/> Read blocked messages
<input type="checkbox"/> 3D Objects	<input type="checkbox"/> Voip calling
<input type="checkbox"/> Chat	<input type="checkbox"/> Phone calls history public
<input type="checkbox"/> Spatial perception	<input type="checkbox"/> Background media playback
<input type="checkbox"/> Remote system	<input type="checkbox"/> User notification listener
<input type="checkbox"/> Offline maps management	<input type="checkbox"/> User data tasks
<input type="checkbox"/> Graphics capture	<input type="checkbox"/> Global media control
<input type="checkbox"/> Eye tracker	<input type="checkbox"/> Recorded calls folder
<input type="checkbox"/> IoT system administrator	<input type="checkbox"/> Custom devices
<input type="checkbox"/> Documents	<input type="checkbox"/> Notifications
<input type="checkbox"/> Run as administrator (restricted)	<input type="checkbox"/> Location
<input type="checkbox"/> Microphone	<input type="checkbox"/> Camera
<input type="checkbox"/> Radios	

For additional capabilities, edit the Manifest. See [App capability declarations online](#).

- If the list does not contain the necessary capability, edit the package manifest to specify this capability manually. For information, see [App capability declarations](#). For editing the manifest, see section 3.8.7.9

3.8.7.5 Set Supported Platforms

Set the supported platforms (target device families) on which, the UWP package could be run. For information, see [Use the MSIX SDK to build a package for cross-platform use](#).

- Go to the Package -> UWP tab.

- Click Edit dependencies.

- Select the necessary supported platforms and click **Save**.

NOTE Only on Windows 10 platforms, the package will only be deployed on OS versions greater than the MinVersion.

Dependencies
✕

Package type

☒ Main package
☐ Modification package for

Package name (identity)

Publisher

Supported platforms

☐ All platforms
☒ Only the following platforms

☒ Windows 10 (Desktop)

Min version

Max version tested

☐ Windows 8/8.1
☐ Windows 7
☐ Linux
☐ MacOS
☐ iOS
☐ Android
☐ Web

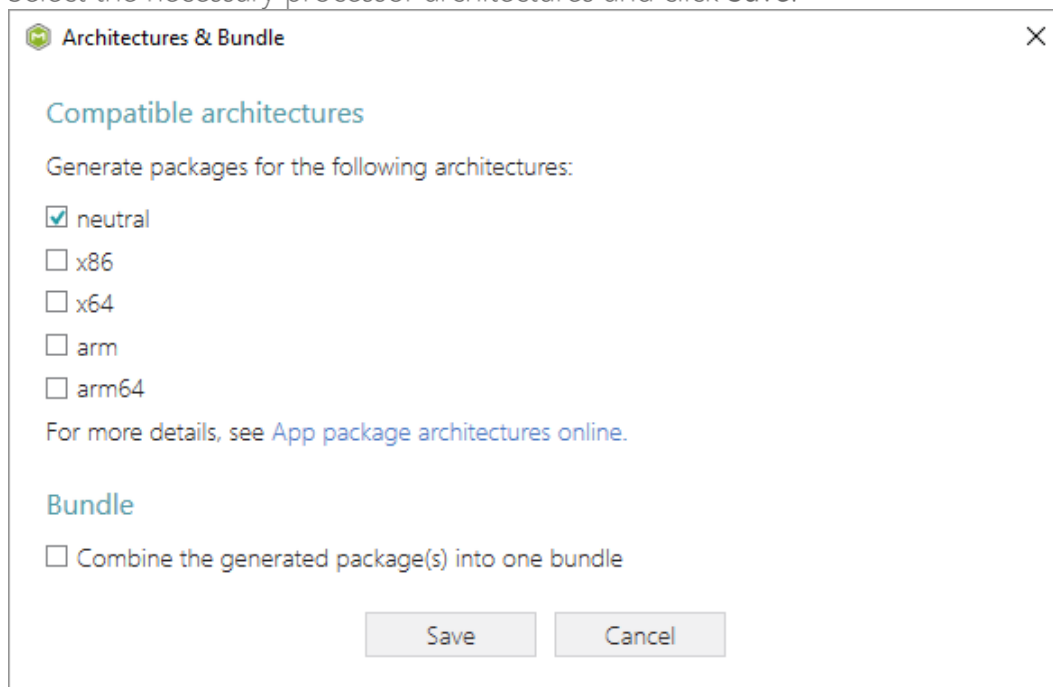
3.8.7.6 Manage Package Architectures

Select the processor architectures (x86, x64, ARM) on which you want to run your UWP package. For each selected processor architecture, a separate package will be created. For information, see [App package architectures](#).

- Go to the Package -> UWP tab.

- Select Edit architectures.

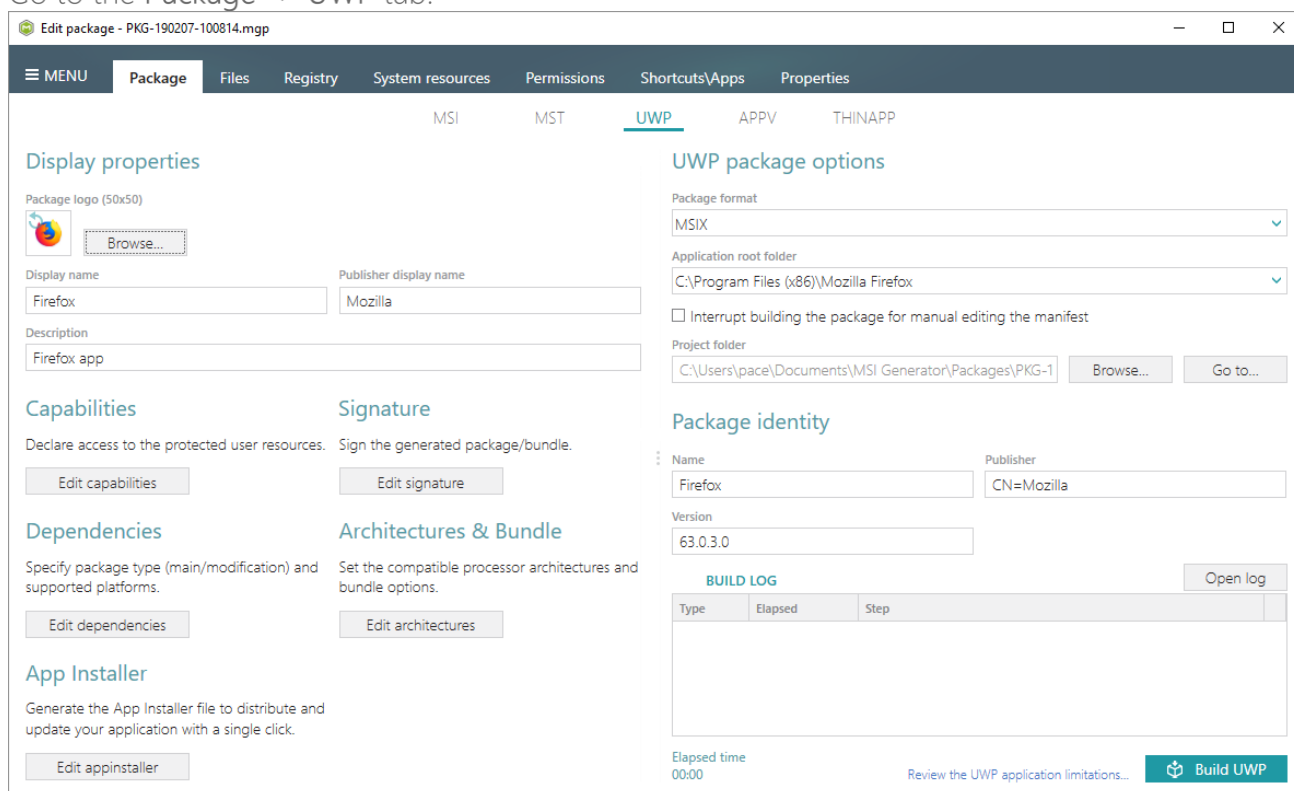
- Select the necessary processor architectures and click Save.



3.8.7.7 Create Bundle

Combine the generated UWP packages into one single bundle. By bundling packages of different processor architectures into one entity, only the bundle needs to be uploaded to the Store or another distribution location. The Windows 10 deployment platform is aware of the bundle package type and will only download the files that are applicable for your device's architecture. Keep in mind that if you decide to distribute a bundle for a particular app, you cannot revert back to distributing just an UWP package.

- Go to the Package -> UWP tab.



- Select Edit architectures.

The screenshot shows the 'Edit package' window for 'PKG-190207-100814.mgp'. The 'UWP' tab is selected. The 'Architectures & Bundle' section is highlighted with a red box around the 'Edit architectures' button. The 'Package identity' section shows the Name as 'Firefox' and the Publisher as 'CN=Mozilla'. The 'Build Log' section is empty.

- Select the Combine the generated package(s) into one bundle option and click Save.

The 'Architectures & Bundle' dialog box is shown. Under the 'Compatible architectures' section, the 'neutral' checkbox is checked. Under the 'Bundle' section, the 'Combine the generated package(s) into one bundle' checkbox is checked. The 'Save' button is highlighted.

3.8.7.8 Sign Package/Bundle

Sign the generated package or bundle with a certificate for the testing purposes or distribution. Signing an app package provides the user with verification that the app's data has not been modified after it was signed while also confirming the identity of the user or company that signed it.


- Go to the Package -> UWP tab.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST **UWP** APPV THINAPP

Display properties

Package logo (50x50)


Display name: Publisher display name:

Description:

Capabilities
 Declare access to the protected user resources.

Dependencies
 Specify package type (main/modification) and supported platforms.

App Installer
 Generate the App Installer file to distribute and update your application with a single click.

Signature
 Sign the generated package/bundle.

Architectures & Bundle
 Set the compatible processor architectures and bundle options.

UWP package options

Package format:

Application root folder:

☐ Interrupt building the package for manual editing the manifest

Project folder:

Package identity

Name: Publisher:

Version:

BUILD LOG

Type	Elapsed	Step

Elapsed time: 00:00 [Review the UWP application limitations...](#)


- Click Edit signature.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST **UWP** APPV THINAPP

Display properties

Package logo (50x50)


Display name: Publisher display name:

Description:

Capabilities
 Declare access to the protected user resources.

Dependencies
 Specify package type (main/modification) and supported platforms.

App Installer
 Generate the App Installer file to distribute and update your application with a single click.

Signature
 Sign the generated package/bundle.

Architectures & Bundle
 Set the compatible processor architectures and bundle options.

UWP package options

Package format:

Application root folder:

☐ Interrupt building the package for manual editing the manifest

Project folder:

Package identity

Name: Publisher:

Version:

BUILD LOG

Type	Elapsed	Step

Elapsed time: 00:00 [Review the UWP application limitations...](#)

- Select the necessary signature option and click Save.

Signature

Signature settings

☒ Do not sign the package/bundle

☐ Sign the package/bundle with my certificate (for distribution)

Certificate file (.pfx)

Browse...

Certificate password

☐ Generate a certificate and sign the package/bundle with it (for testing purposes)

Certificate password

[How to install the generated certificate...](#)

Save Cancel

- To install the generated UWP package, (1) enable the [Developer Mode or Sideload apps](#) on the target system and (2) ensure that the certificate, used for signing, is trusted on that system. If you are using the self signed certificate, install it manually to the Trusted People or Trusted Publishers local machine certificate store. By adding a certificate to local machine certificate stores, you affect the certificate trust of all users on the computer. It is recommended that you remove those certificates when they are no longer necessary to prevent them from being used to compromise system trust.

3.8.7.9 Edit Manifest Manually

Edit the package manifest file(s) manually to modify existing or add new specific package settings.

- Go to the Package -> UWP tab.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST **UWP** APPV THINAPP

Display properties

Package logo (50x50)
 Browse...

Display name: Firefox
 Publisher display name: Mozilla

Description: Firefox app

Capabilities
 Declare access to the protected user resources.
 Edit capabilities

Signature
 Sign the generated package/bundle.
 Edit signature

Dependencies
 Specify package type (main/modification) and supported platforms.
 Edit dependencies

App Installer
 Generate the App Installer file to distribute and update your application with a single click.
 Edit appinstaller

UWP package options

Package format: MSIX

Application root folder: C:\Program Files (x86)\Mozilla Firefox

☐ Interrupt building the package for manual editing the manifest

Project folder: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 Browse... Go to...

Package identity

Name: Firefox Publisher: CN=Mozilla

Version: 63.0.3.0

BUILD LOG Open log

Type	Elapsed	Step

Elapsed time: 00:00 Review the UWP application limitations... Build UWP

- Tick the Interrupt building the package for manual editing the manifest option and click Build UWP.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST **UWP** APPV THINAPP

Display properties

Package logo (50x50)
 Browse...

Display name: Firefox
 Publisher display name: Mozilla

Description: Firefox app

Capabilities
 Declare access to the protected user resources.
 Edit capabilities

Signature
 Sign the generated package/bundle.
 Edit signature

Dependencies
 Specify package type (main/modification) and supported platforms.
 Edit dependencies

App Installer
 Generate the App Installer file to distribute and update your application with a single click.
 Edit appinstaller

UWP package options

Package format: MSIX

Application root folder: C:\Program Files (x86)\Mozilla Firefox

☒ Interrupt building the package for manual editing the manifest

Project folder: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 Browse... Go to...

Package identity

Name: Firefox Publisher: CN=Mozilla

Version: 63.0.3.0

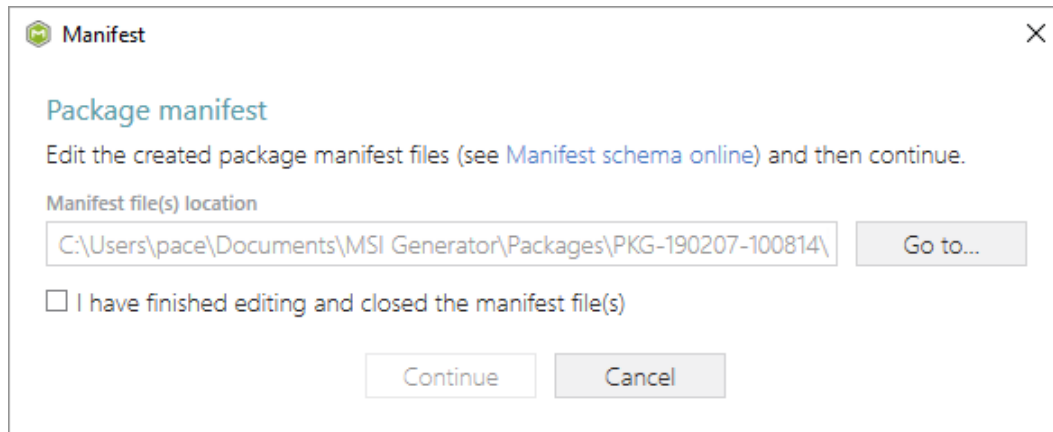
BUILD LOG Open log

Type	Elapsed	Step

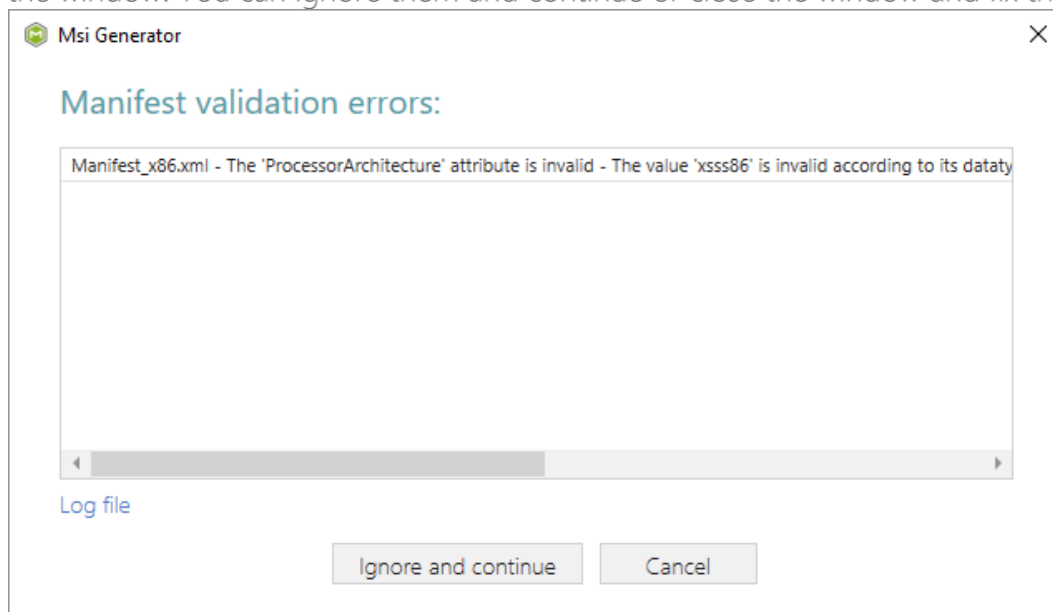
Elapsed time: 00:00 Review the UWP application limitations... Build UWP

- In the opened window, click Go to... to locate the prepared manifest files on the file system. Edit them according to your needs using any text editor, save and close their folder. Afterwards, tick the I have finished editing and closed the manifest file(s) option and click

Continue.



- MSI Generator validates the edited manifest files against the schemas and displays all errors in the window. You can ignore them and continue or close the window and fix the manifest files.



3.8.7.10 Manage Apps and Visual Assets

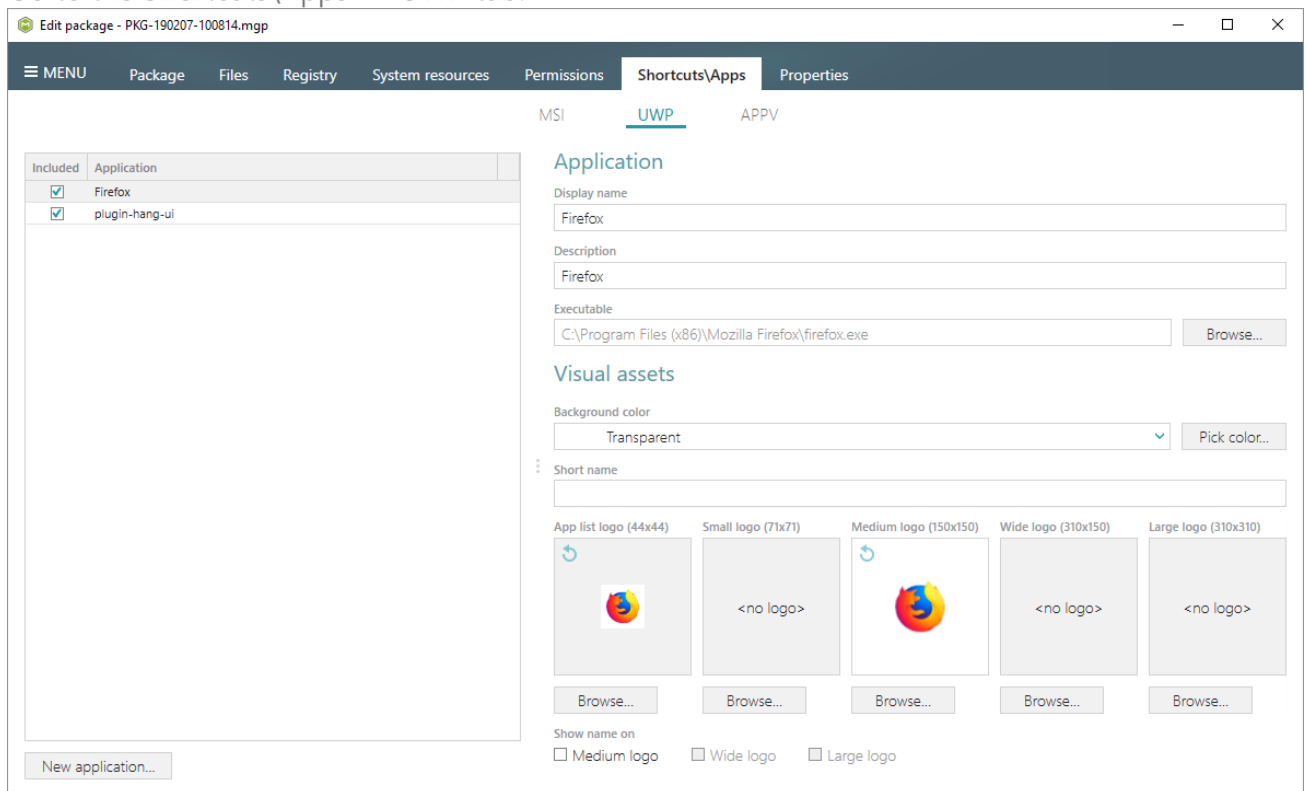
Choose a scenario that better suits your needs:

- **Exclude App**, described in section 3.8.7.10.1
Exclude the unnecessary app from the package.
- **Include Excluded App**, described in section 3.8.7.10.2
Include, the previously excluded app, back to the package.
- **Add App**, described in section 3.8.7.10.3
Add a new app to the package.
- **Set App Logos**, described in section 3.8.7.10.4
Control appearance settings of the app such as logos, name, background color.

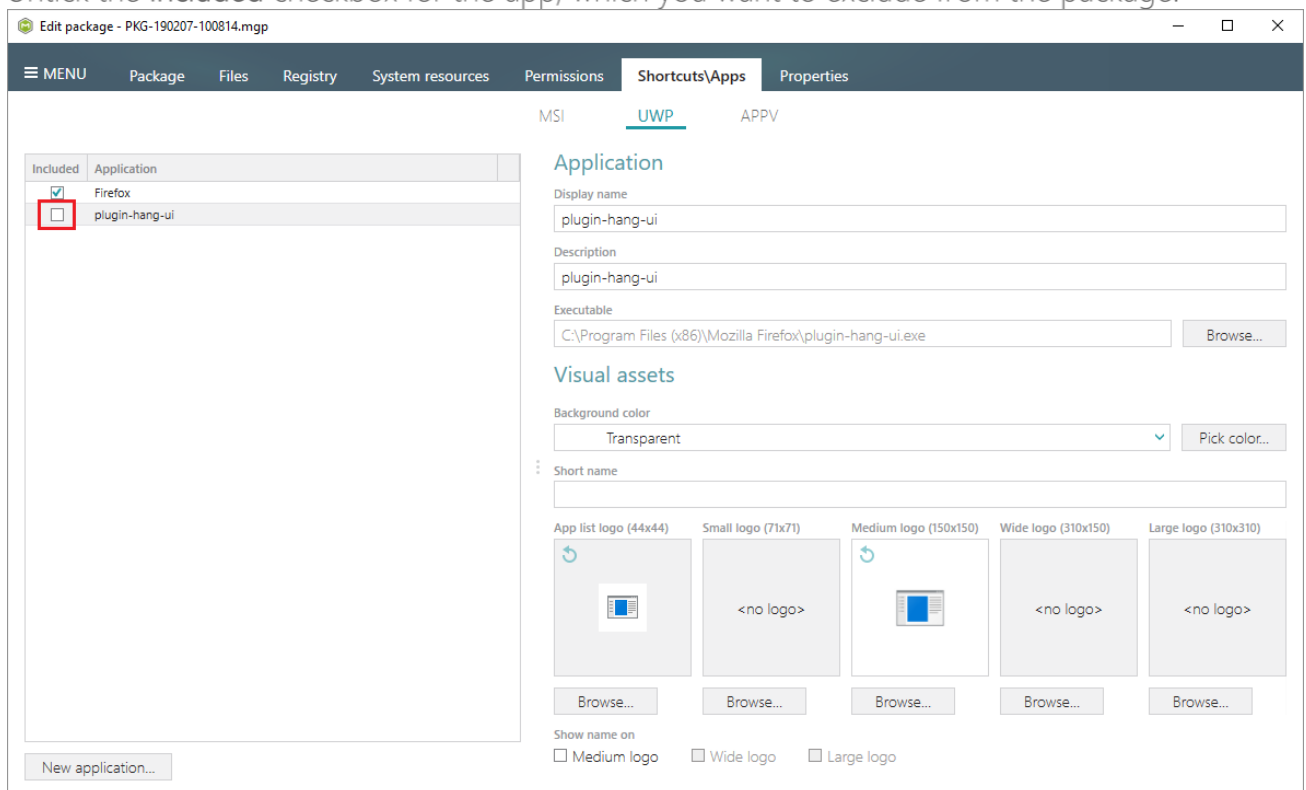
3.8.7.10.1 Exclude App

Exclude the unnecessary app from the package.

- Go to the Shortcuts\Apps -> UWP tab.



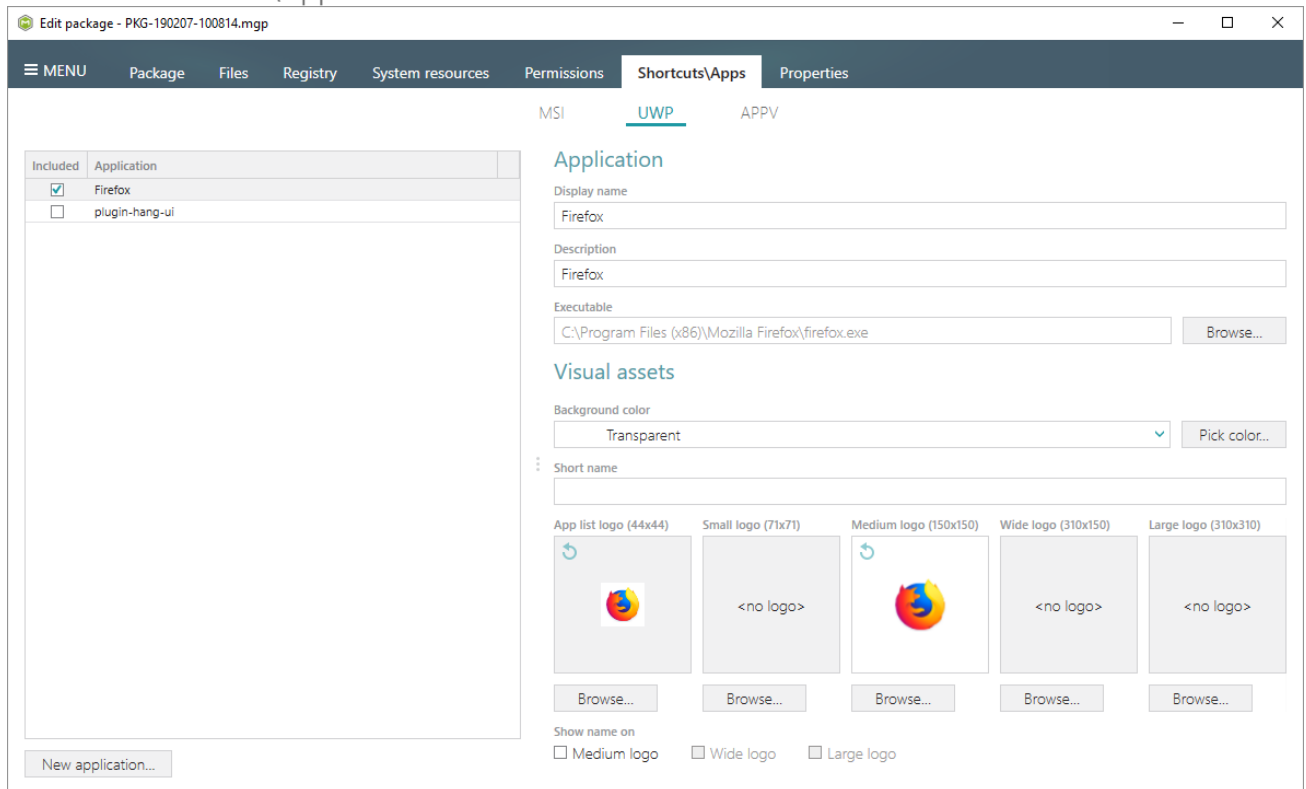
- Untick the Included checkbox for the app, which you want to exclude from the package.



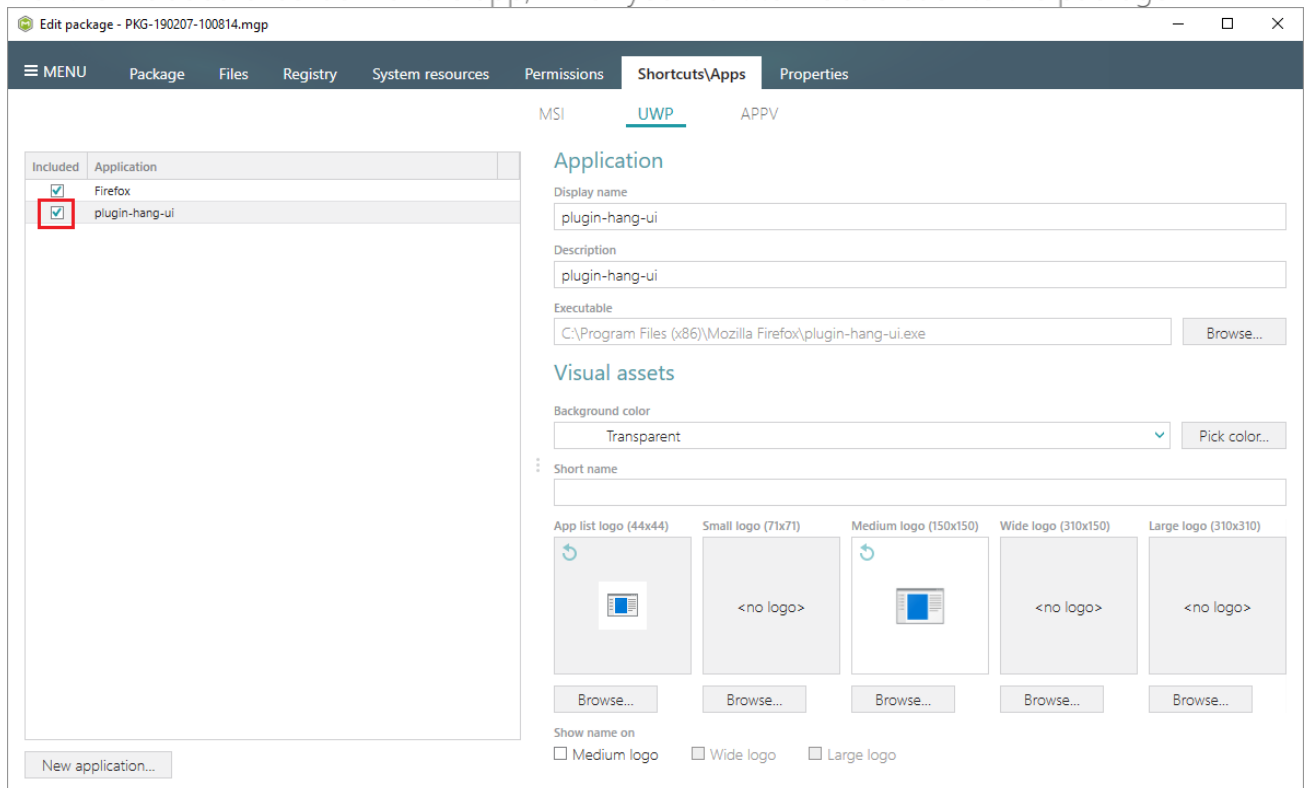
3.8.7.10.2 Include Excluded App

Include, the previously excluded app, back to the package.

- Go to the Shortcuts\Apps -> UWP tab.



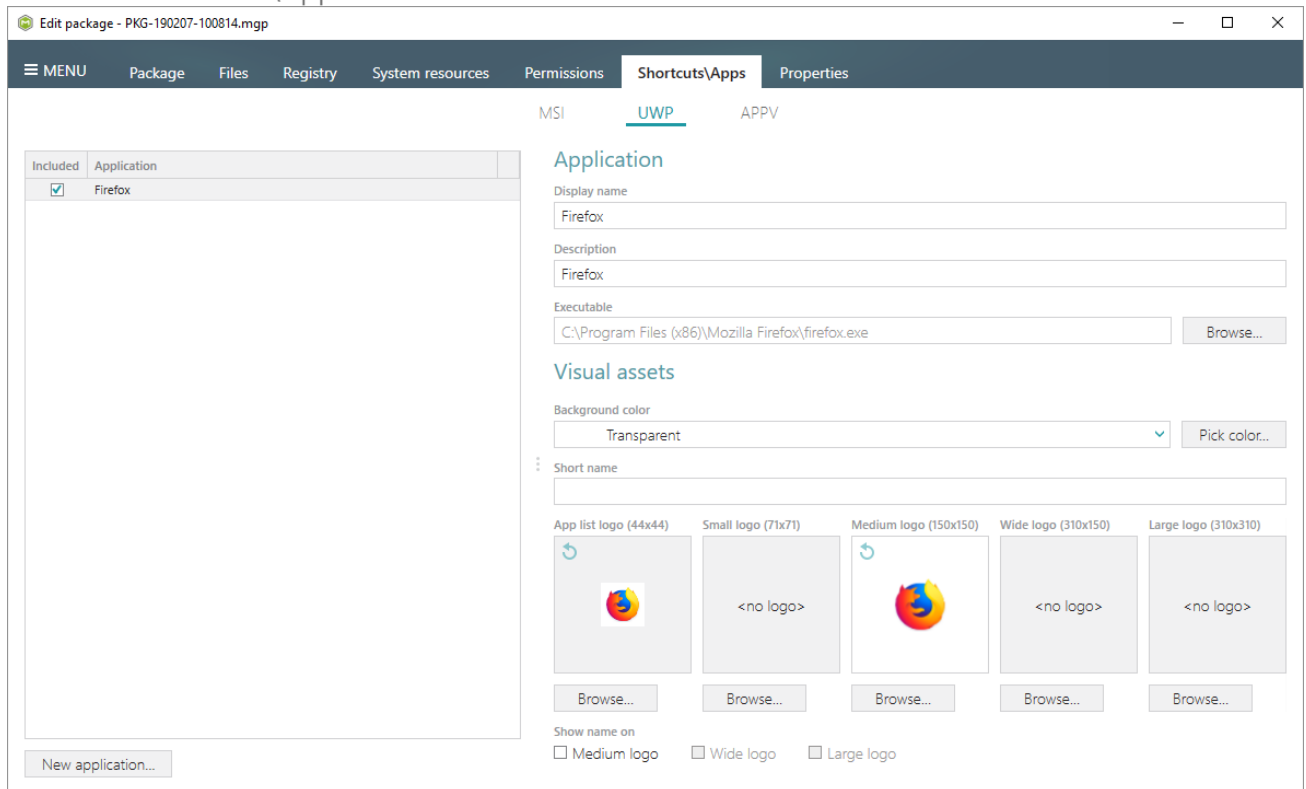
- Tick the Included checkbox for the app, which you want to include back to the package.



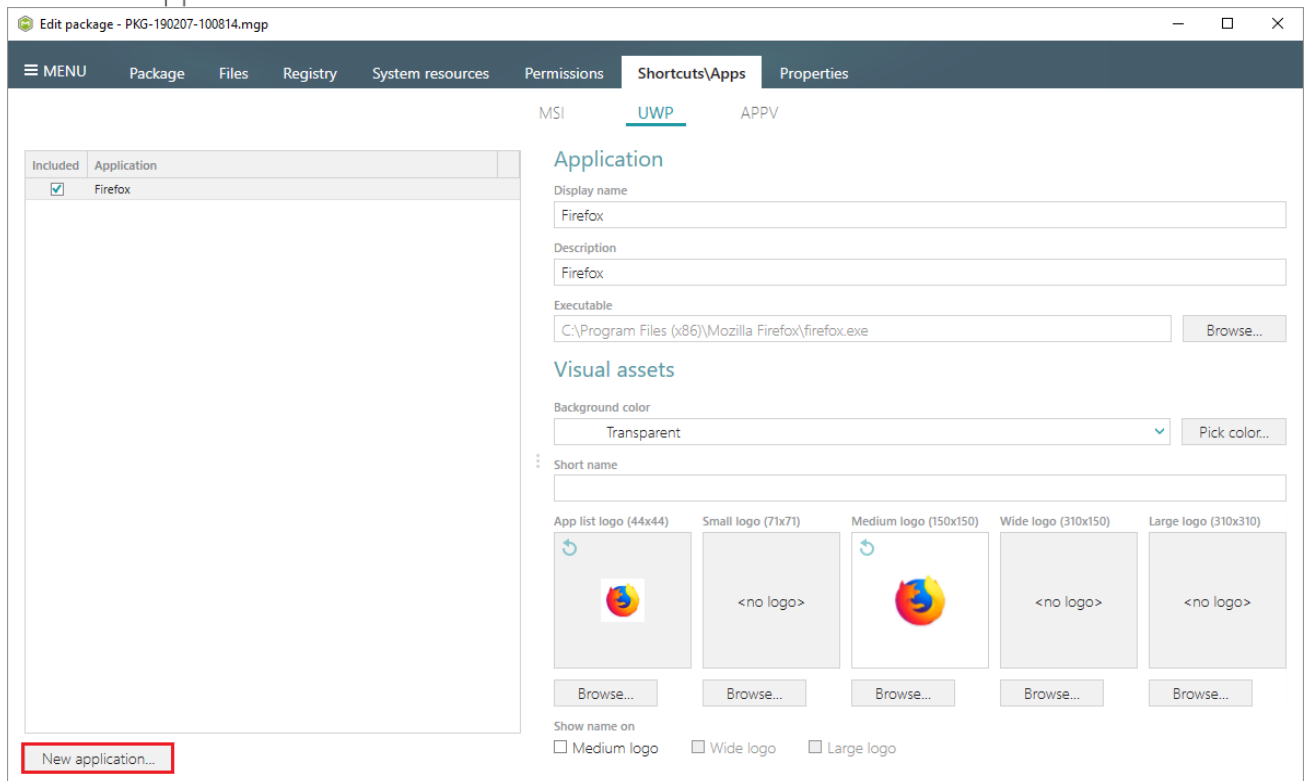
3.8.7.10.3 Add App

Add a new app to the package.

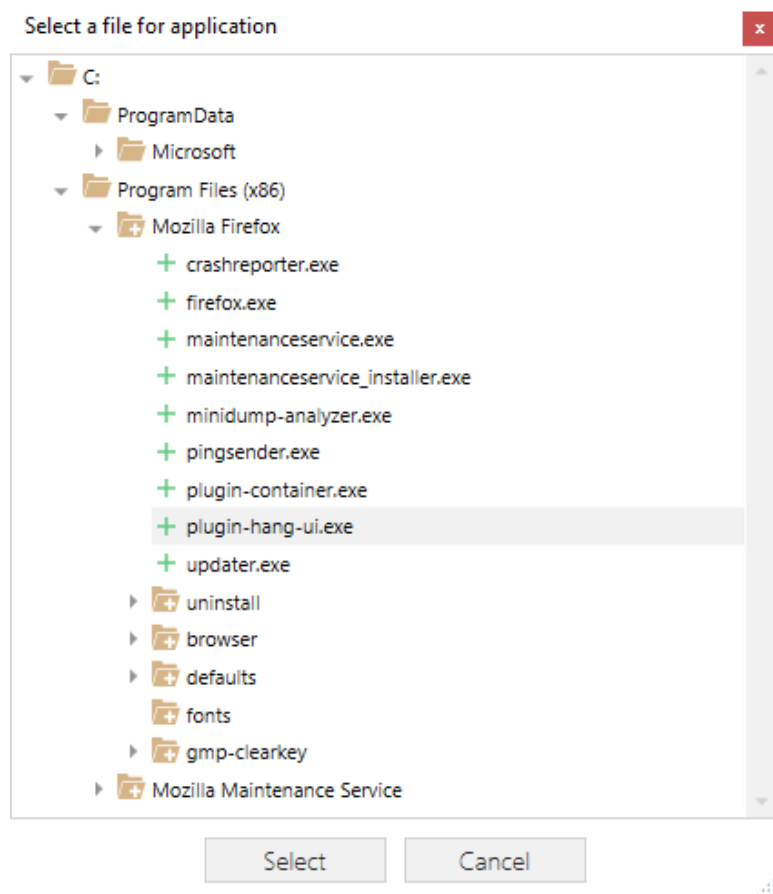
- Go to the Shortcuts\Apps -> UWP tab.



- Click New application.



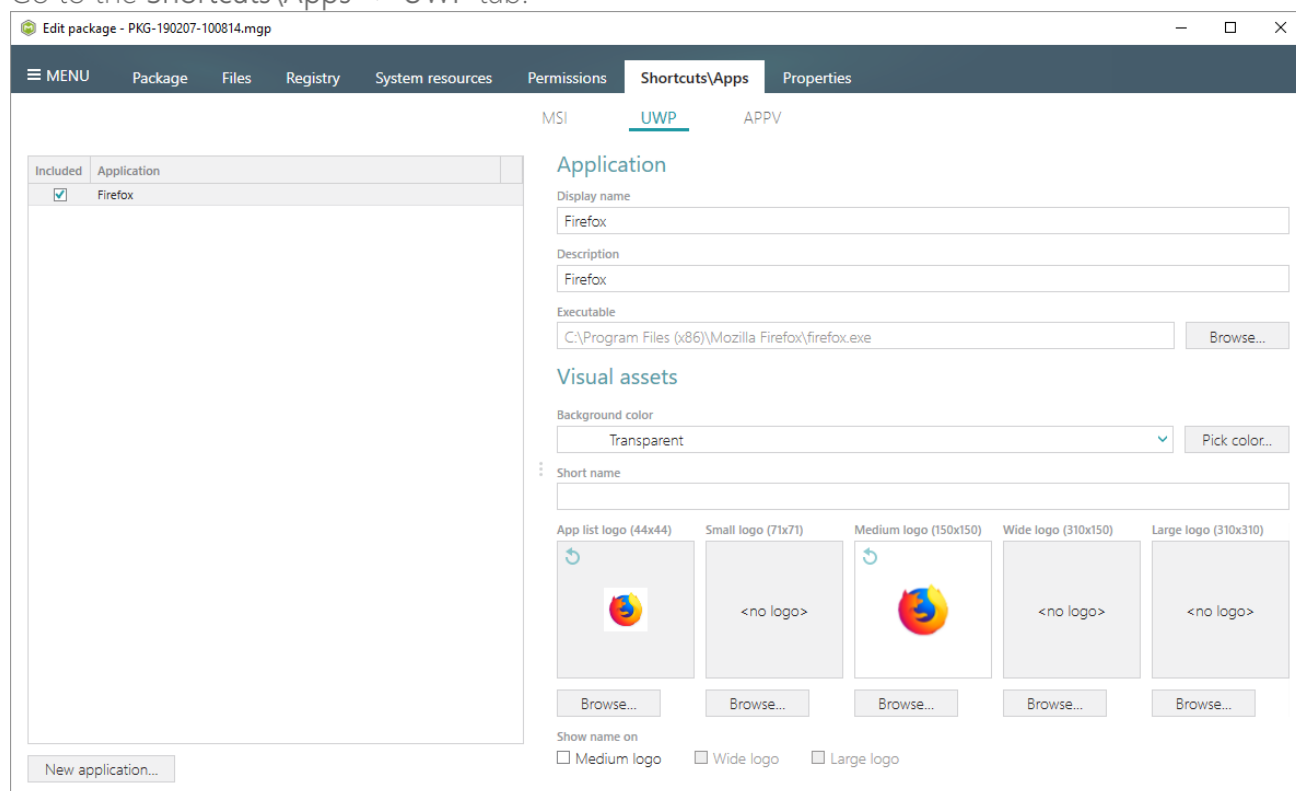
- Select an executable from the project resources for your new application and click Select.



3.8.7.10.4 Set App Logos

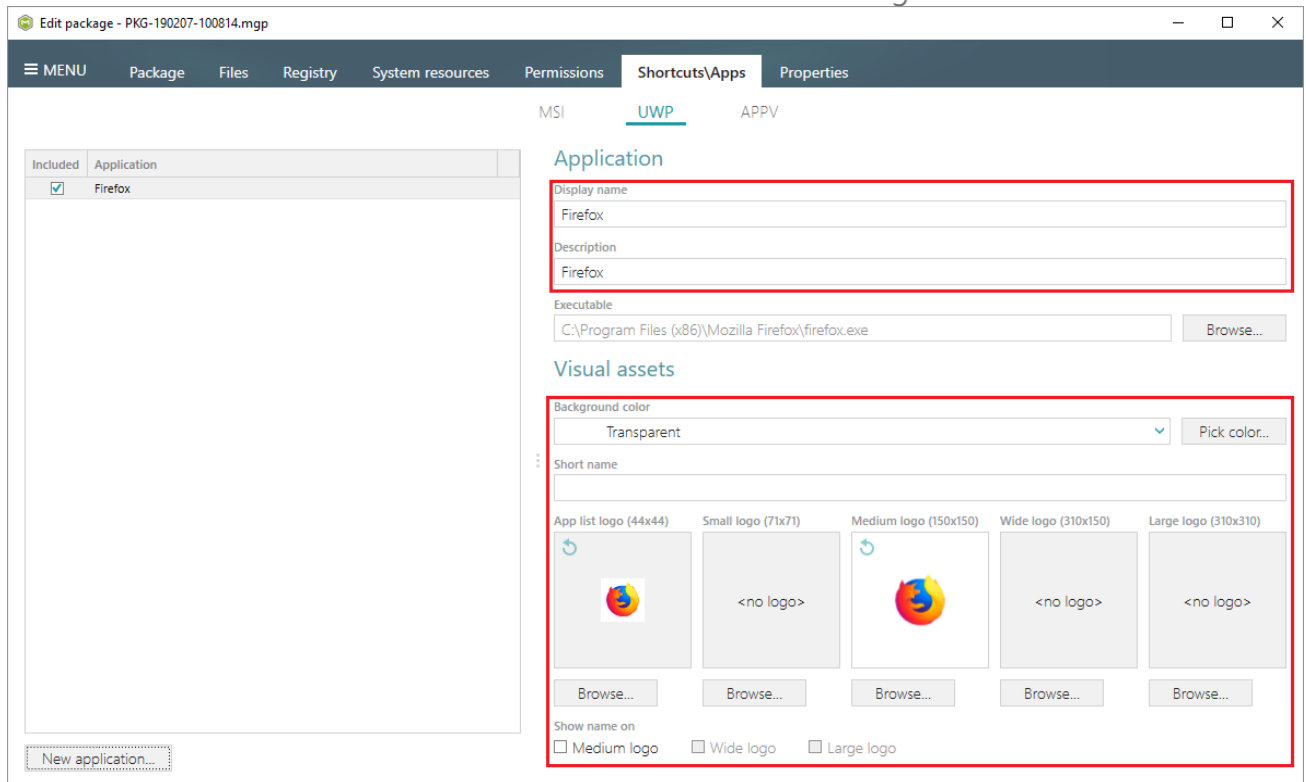
Control appearance settings of the app such as logos, name, background color.

- Go to the Shortcuts\Apps -> UWP tab.



- Update the necessary settings for the selected application such as display name, description, background color, logos, which will be displayed in the Start menu and so on.

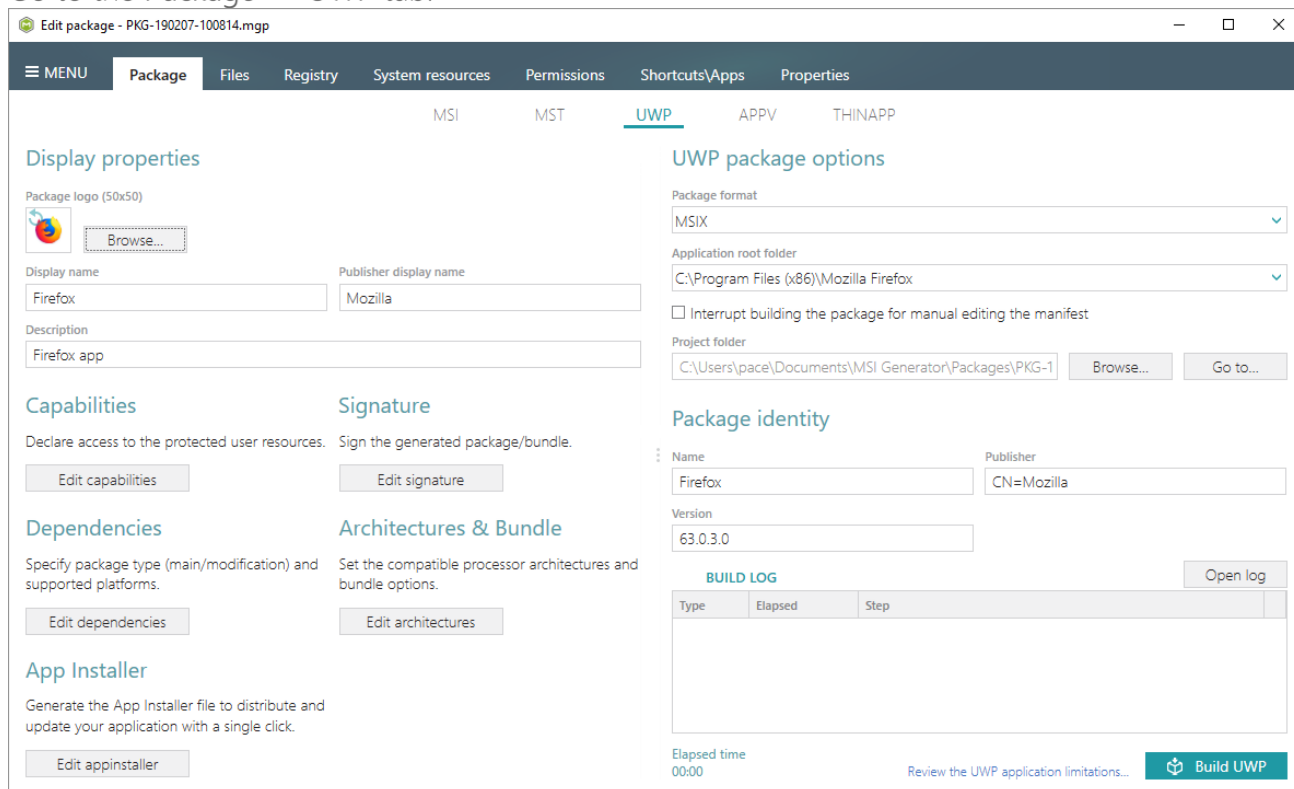
NOTE The settings are applied once they are changed. To save these changes to the project either select **Save** from the **MENU** or click **Build UWP** on the **Package** tab.



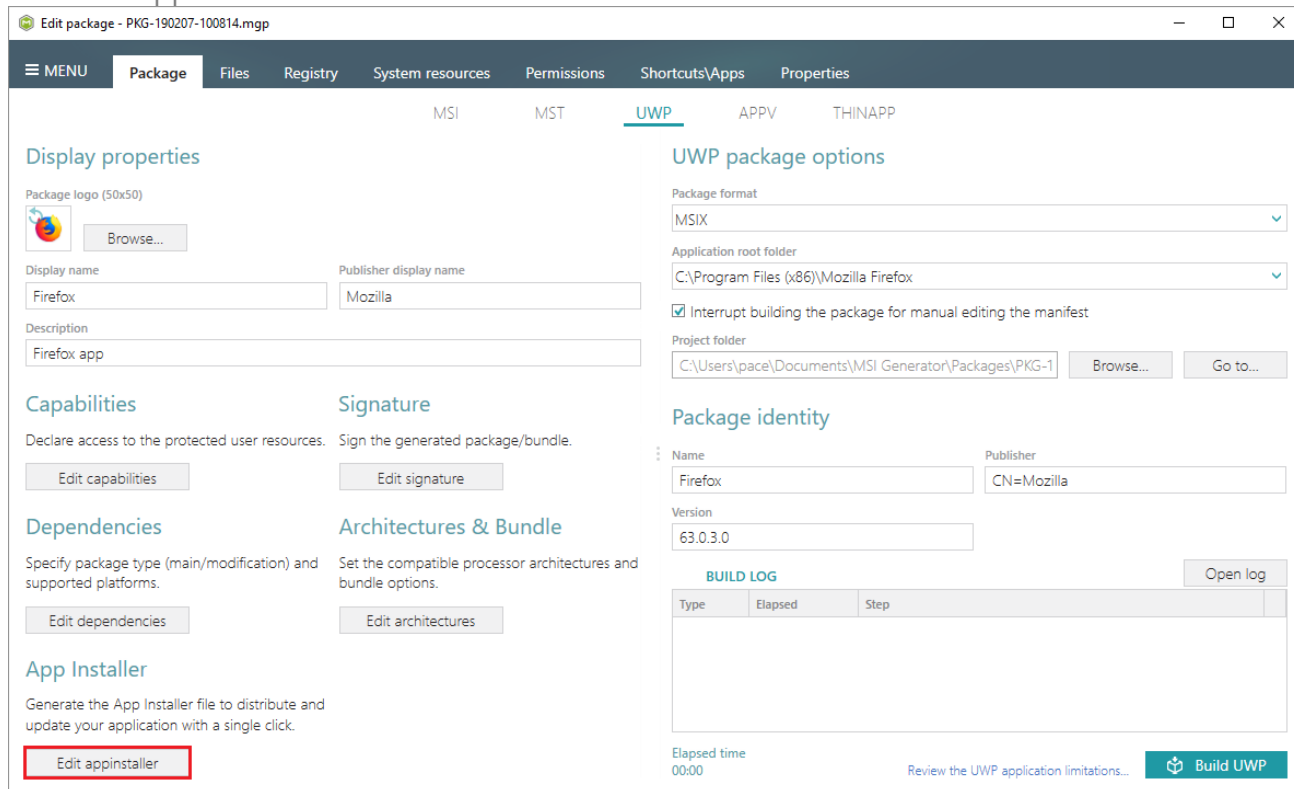
3.8.7.11 Generate AppInstaller

Generate the AppInstaller file for the non-Store distribution and automatic update of your UWP package. For information, see [Install UWP apps with App Installer](#).

- Go to the Package -> UWP tab.



- Click Edit appinstaller.



- Tick the Generate the appinstaller file option, specify a file version (increase version for each new file), URL where this AppInstaller file will be published. Also, specify the generated package/bundle as main or as optional, and the URL, where this package/bundle will be

available for download. Select the desired package update settings and click **Save**.

For manual editing, see [App Installer file \(.appinstaller\) schema reference](#).

NOTE The generated AppInstaller file will work only if you launch it from the specified URL.

App Installer

☒ **Generate the appinstaller file**

NOTE The App Installer file allows installing a set of defined packages with a single click and updating them automatically when a newer App Installer file is published.

App Installer properties

File version
1.0.0.0

File publish URL (without file name)
https://mywebsite/my_app/

Package/bundle properties

Define the generated package(s)/bundle as:

☒ Main ☐ Optional

Download URL (without file name)
https://mywebsite/my_app/

NOTE In case defining the generated package(s)/bundle as optional, update the <MainPackage> section in the generated App Installer file manually to specify an actual identity information of your main package.

Update settings

☐ Check for updates on the app launch

☐ In the background of the launched app every
Every 12 hours

For additional settings, see [App Installer file example online](#).

Save **Cancel**

- To install the generated UWP package with the AppInstaller file, (1) enable the [Developer Mode or Sideload apps](#) on the target system and (2) ensure that the certificate, used for signing, is trusted on that system. If you are using the self signed certificate, install it manually to the Trusted People or Trusted Publishers local machine certificate store. By adding a certificate to local machine certificate stores, you affect the certificate trust of all users on the computer. It is recommended that you remove those certificates when they are no longer necessary to prevent them from being used to compromise system trust.
- For troubleshooting, see [Troubleshoot installation issues with the App Installer file](#).

3.8.8 APPV Settings

Choose a scenario that better suits your needs:

- **Set Application Details**, described in section 3.8.8.1
Set the application details, such as app name, version and publisher of the APPV package.
- **Manage Package Settings**, described in section 3.8.8.2
Select the package settings such as APPV version, Primary virtual application directory (PVAD), target OS, streaming and some advanced options.
- **Set Folder Virtualization Level**, described in section 3.8.8.3
Change the default APPV virtualization (isolation) level for a folder.
- **Set Registry Virtualization Level**, described in section 3.8.8.4
Change the default APPV virtualization (isolation) level for a registry key.
- **Manage Apps, FTA, Shortcuts**, described in section 3.8.8.5
Include/exclude captured apps, add new ones, manage their shortcuts and FTA.

3.8.8.1 Set Application Details

Set the application details, such as app name, version and publisher of the APPV package.

- Go to the Package -> APPV tab.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP **APPV** THINAPP

Application Details

Application name:

Version:

Publisher:

App-V Settings

Primary virtual application directory (PVAD):

Streaming options:

- ☐ Force application to be fully downloaded before launching.

Target OS:

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

Advanced options:

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

App-V Package Options

App-V version:

Package name:

Package folder:

Description:

BUILD LOG

Type	Elapsed	Step

Elapsed time: 00:00

- Update the necessary values in the Application Details section.

The screenshot shows the 'Edit package' window for 'PKG-190207-100814.mgp'. The 'Application Details' section is highlighted with a red box. It contains the following fields:

- Application name: Firefox
- Version: 63.0.3
- Publisher: Mozilla

The 'App-V Package Options' section on the right includes:

- App-V version: App-V 5.2 (1607) package format version
- Package name: PKG-190212-152709
- Package folder: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1
- Description: (empty)

The 'App-V Settings' section on the left includes:

- Primary virtual application directory (PVAD): Do not use PVAD (default)
- Streaming options:
 - ☐ Force application to be fully downloaded before launching.
- Target OS:
 - ☒ Allow this package to be run on any operating system
 - ☐ Allow this package to be run only on the selected operating systems
- Advanced options:
 - ☐ Allow all named objects to interact with the local system
 - ☐ Allow all COM objects to interact with the local system
 - ☐ Allow virtual application full write permissions to the virtual file system
 - ☐ Enable Browser Helper Objects

The 'BUILD LOG' section on the right shows a table with columns: Type, Elapsed, Step. The 'Elapsed time' is 00:00. A 'Build APPV' button is at the bottom right.

3.8.8.2 Manage Package Settings

Select the package settings such as APPV version, Primary virtual application directory (PVAD), target OS, streaming and some advanced options.

- Go to the Package -> APPV tab.

The screenshot shows the 'Edit package' window for 'PKG-190207-100814.mgp' with the 'APPV' tab selected. The 'Application Details' section on the left is the same as in the previous screenshot. The 'App-V Package Options' section on the right is now visible, showing:

- App-V version: App-V 5.2 (1607) package format version
- Package name: PKG-190212-152709
- Package folder: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1
- Description: (empty)

The 'App-V Settings' section on the left is the same as in the previous screenshot. The 'BUILD LOG' section on the right shows a table with columns: Type, Elapsed, Step. The 'Elapsed time' is 00:00. A 'Build APPV' button is at the bottom right.

- Update the necessary values in the App-V Settings and App-V Package Options sections.

Edit package - PKG-190207-100814.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts/Apps | Properties

MSI | MST | UWP | **APPV** | THINAPP

Application Details

Application name: Firefox

Version: 63.0.3

Publisher: Mozilla

App-V Settings

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

Streaming options

☐ Force application to be fully downloaded before launching.

Target OS

☒ Allow this package to be run on any operating system

☐ Allow this package to be run only on the selected operating systems

Select OS...

Advanced options

☐ Allow all named objects to interact with the local system

☐ Allow all COM objects to interact with the local system

☐ Allow virtual application full write permissions to the virtual file system

☐ Enable Browser Helper Objects

App-V Package Options

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

Package name: PKG-190212-152709

Package folder: C:\Users\pace\Documents\MSI Generator\Packages\PKG-1

Description:

BUILD LOG

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

Elapsed time: 00:00

Build APPV

3.8.8.3 Set Folder Virtualization Level

Change the default APPV virtualization (isolation) level for a folder.

- Go to the Files tab.

Edit package - PKG-190207-100814.mgp

Files | Package | Registry | System resources | Permissions | Shortcuts/Apps | Properties

Files Included: 146

Filter by: ☒ + Added: 111 ☒ / Changed: 31 ☒ X Deleted: 4

- C:
 - Windows
 - System32
 - ProgramData
 - Microsoft
 - Program Files (x86)
 - Mozilla Firefox
 - Mozilla Maintenance Service

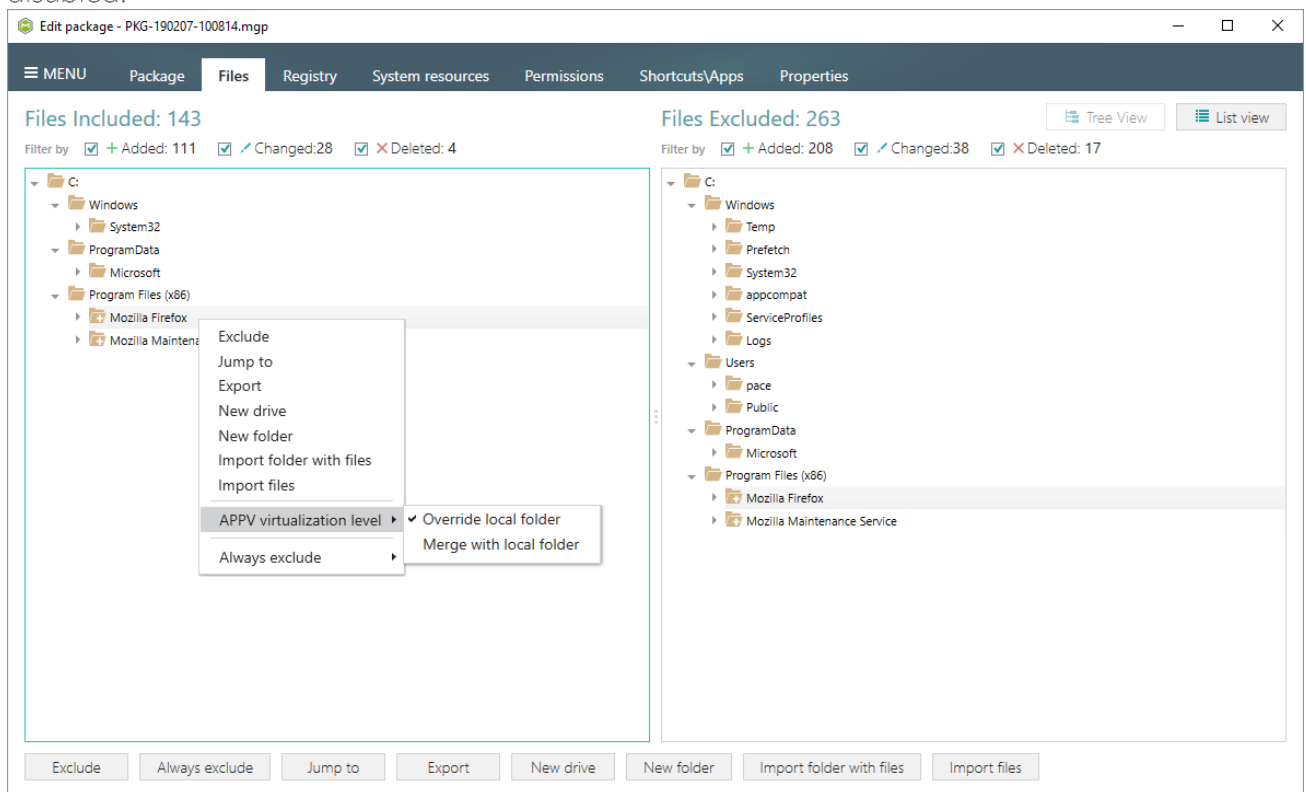
Files Excluded: 260

Filter by: ☒ + Added: 208 ☒ / Changed: 35 ☒ X Deleted: 17

- C:
 - Windows
 - Temp
 - Prefetch
 - appcompat
 - ServiceProfiles
 - Logs
 - Users
 - pace
 - Public
 - ProgramData
 - Microsoft
 - Program Files (x86)
 - Mozilla Firefox
 - Mozilla Maintenance Service

Exclude | Always exclude | Jump to | Export | New drive | New folder | Import folder with files | Import files

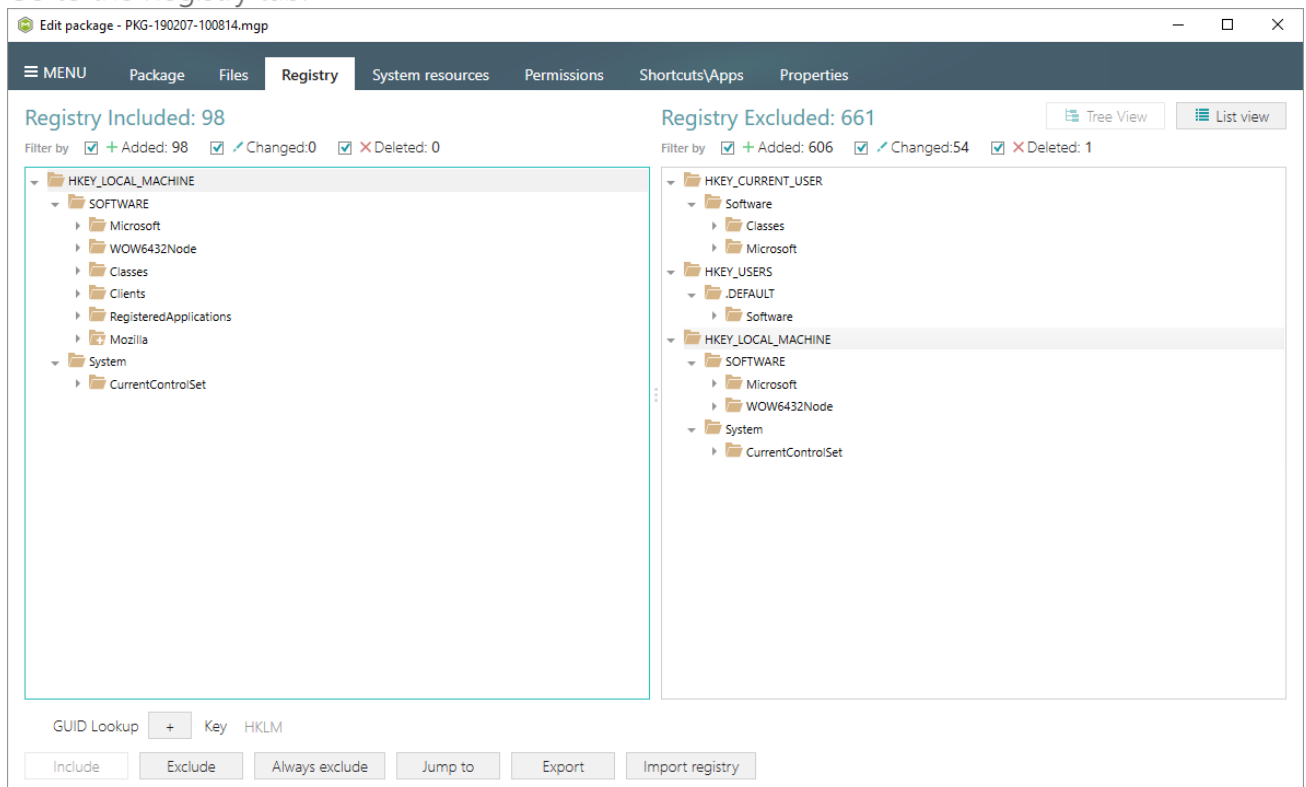
- Select the necessary virtualization level from the context menu of a folder.
NOTE If the parent folder has the **Override local folder** level, its child folders could not have the **Merge with local folder** level and this case the **APPV** virtualization level submenu will be disabled.



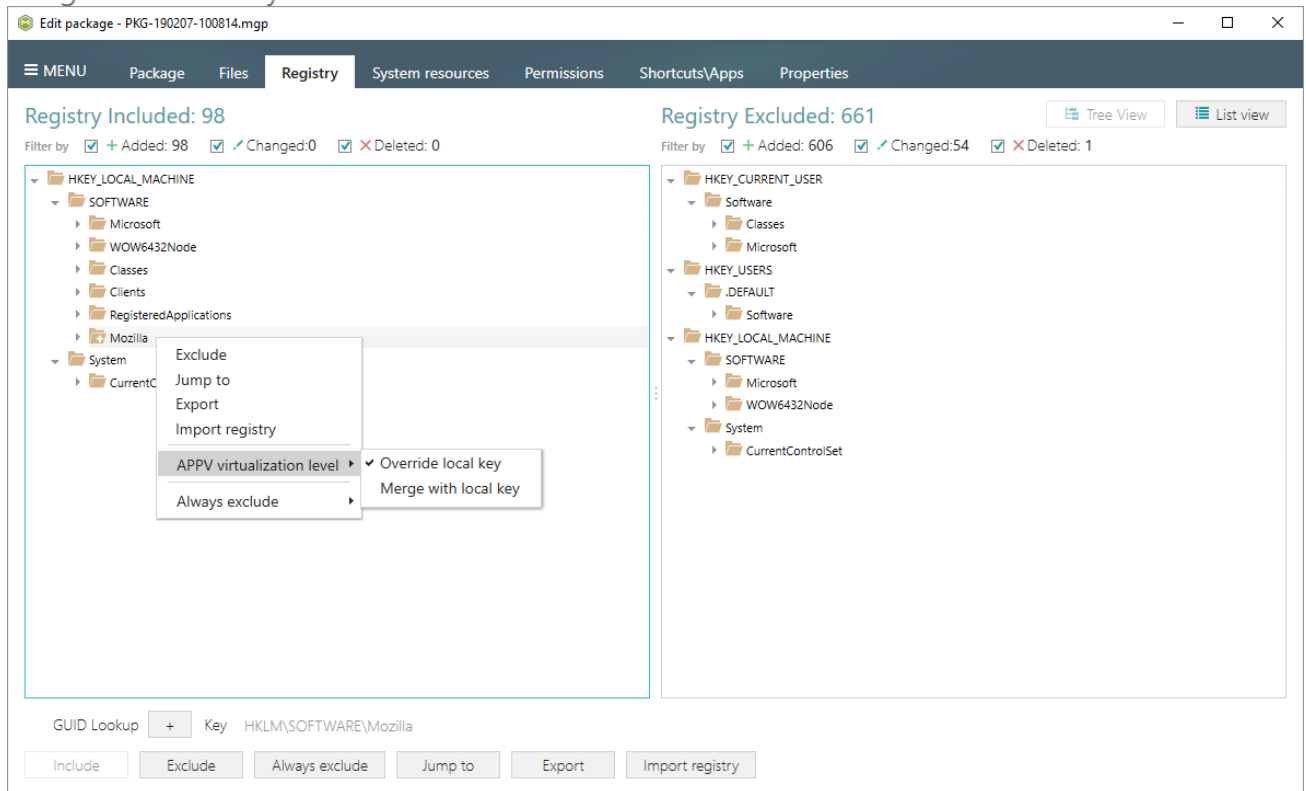
3.8.8.4 Set Registry Virtualization Level

Change the default APPV virtualization (isolation) level for a registry key.

- Go to the Registry tab.



- Select the necessary virtualization level from the context menu of a registry key.
NOTE If the parent key has the **Override local key** level, its child keys could not have the **Merge with local key** level and this case the APPV virtualization level submenu will be disabled.



3.8.8.5 Manage Apps, FTA, Shortcuts

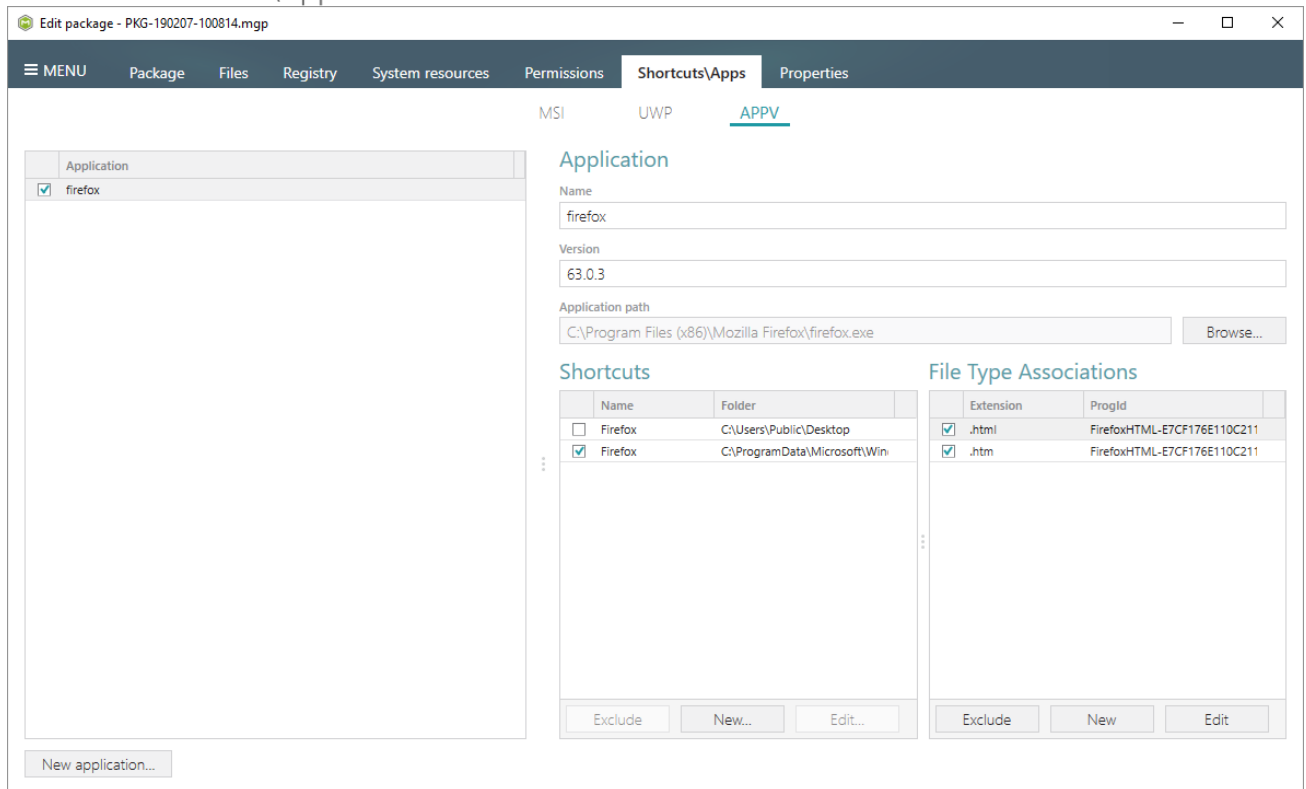
Choose a scenario that better suits your needs:

- Exclude App**, described in section 3.8.8.5.1
Exclude the unnecessary app from the package.
- Include Excluded App**, described in section 3.8.8.5.2
Include, the previously excluded app, back to the package.
- Add App**, described in section 3.8.8.5.3
Add a new app to the package.
- Add App Shortcut**, described in section 3.8.8.5.4
Add an app shortcut to the package.
- Add App FTA**, described in section 3.8.8.5.5
Add an app FTA (File Type Association) to the package.

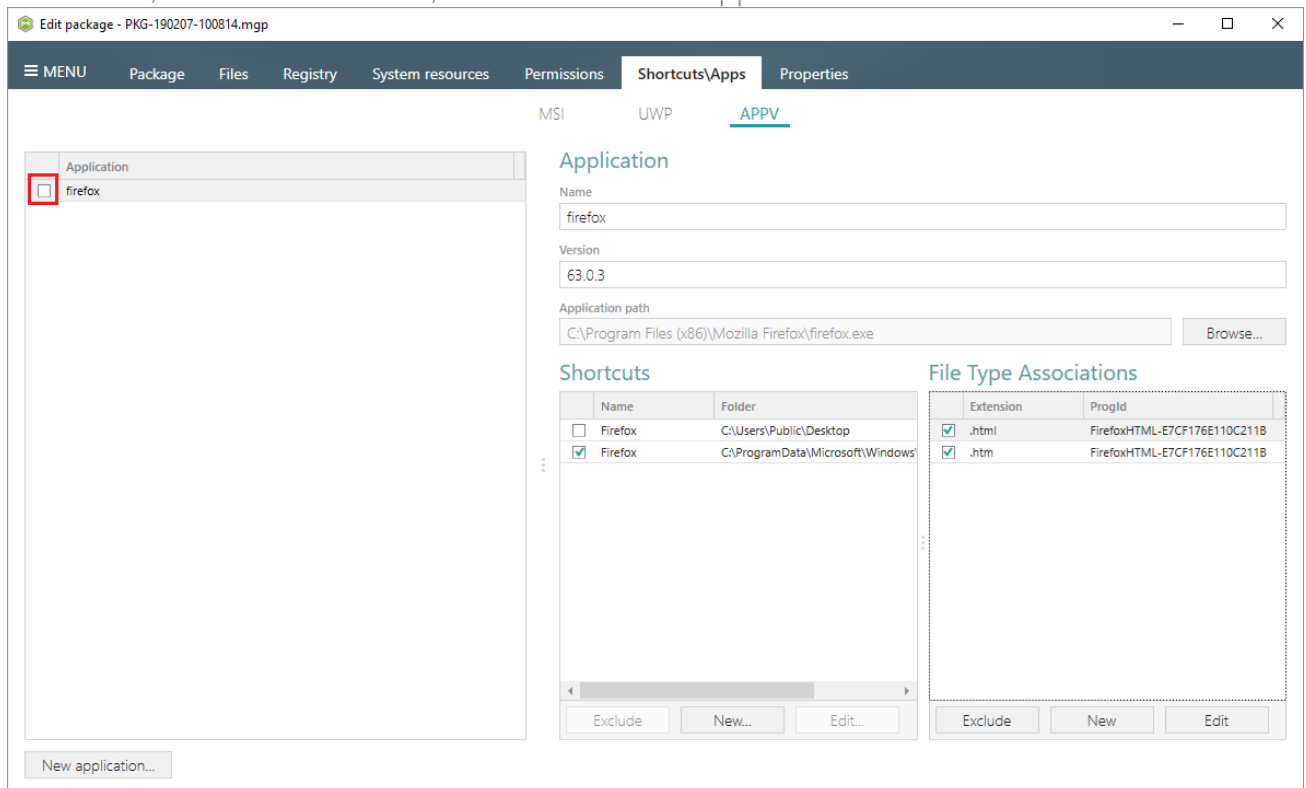
3.8.8.5.1 Exclude App

Exclude the unnecessary app from the package.

- Go to the Shortcuts\Apps -> APPV tab.



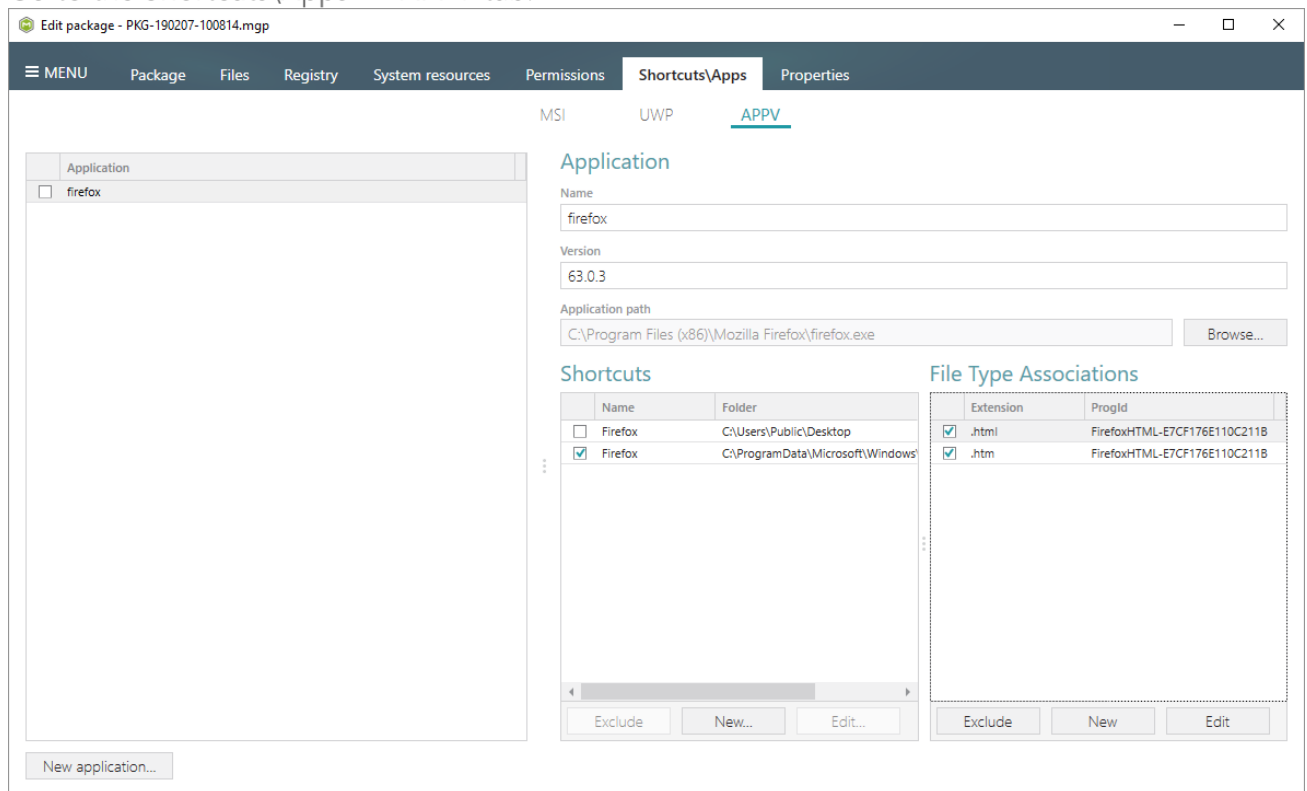
- To exclude, untick the checkbox, located before the app name.



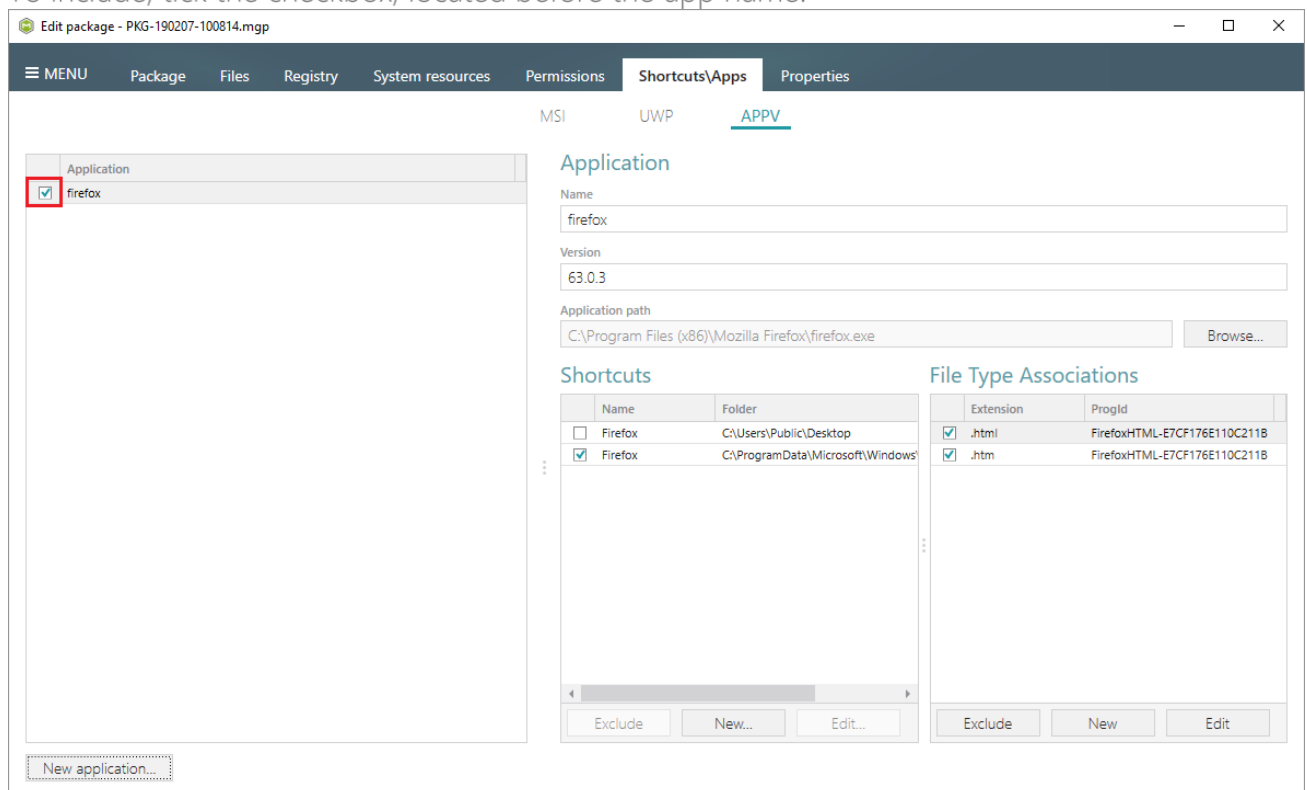
3.8.8.5.2 Include Excluded App

Include, the previously excluded app, back to the package.

- Go to the Shortcuts\Apps -> APPV tab.



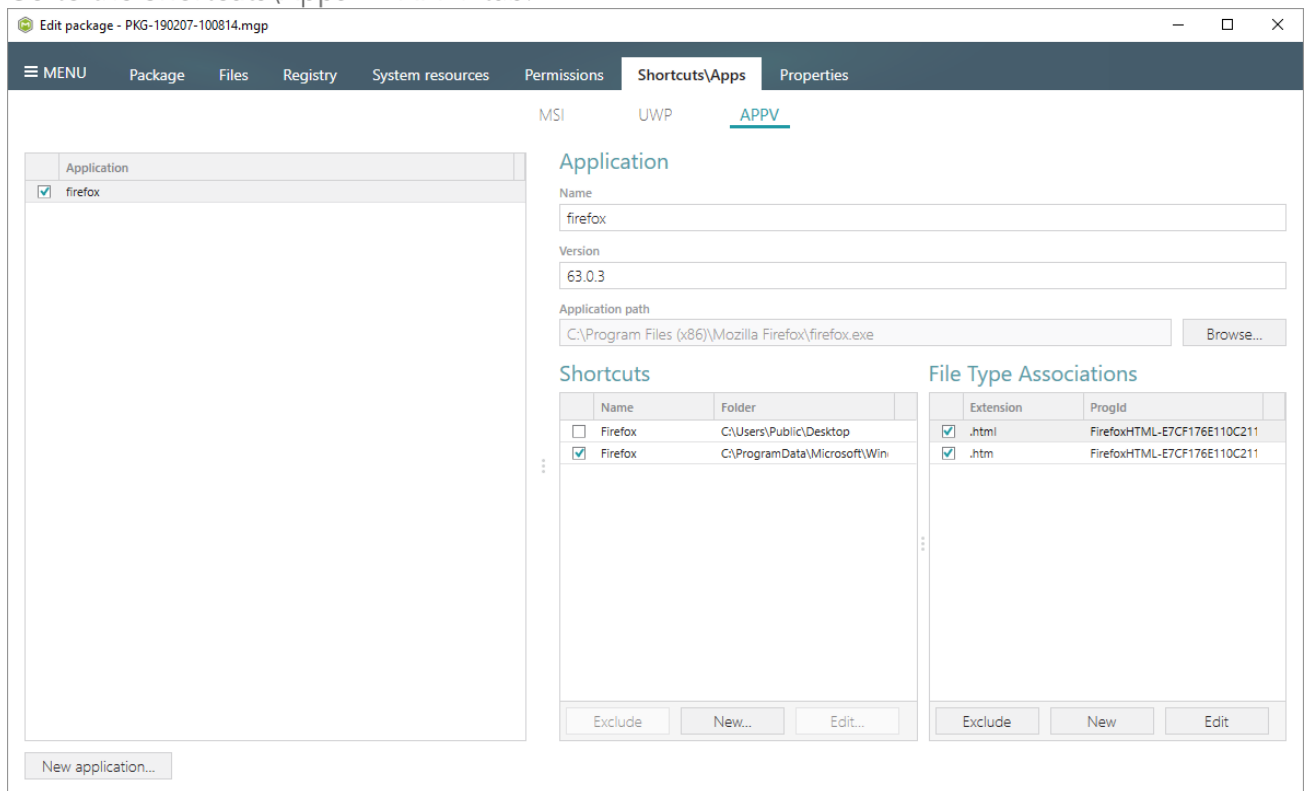
- To include, tick the checkbox, located before the app name.



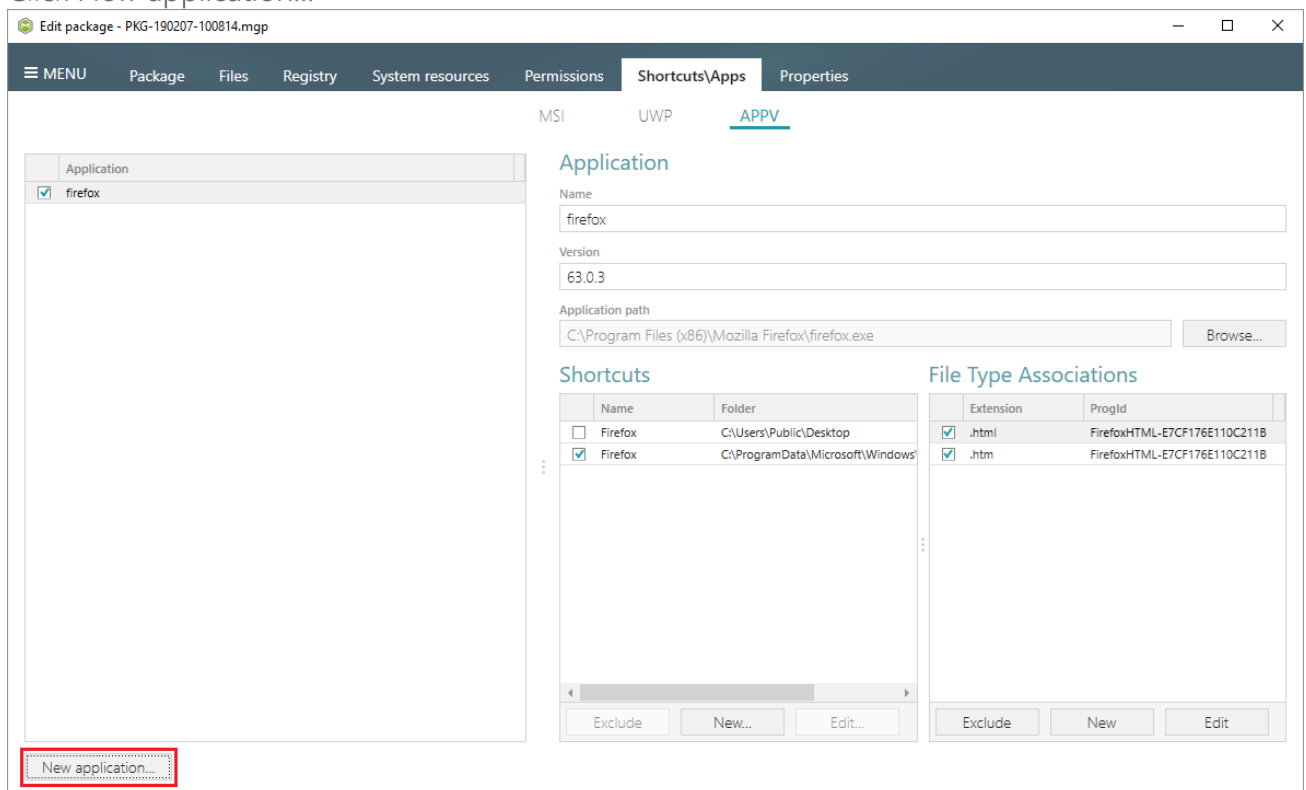
3.8.8.5 Add App

Add a new app to the package.

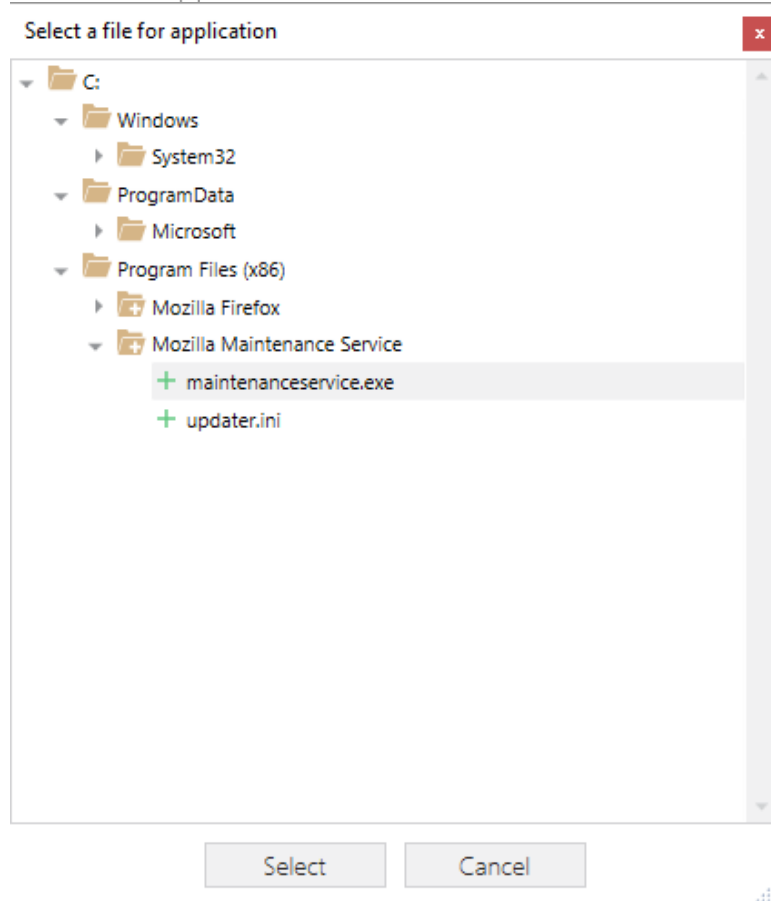
- Go to the Shortcuts\Apps -> APPV tab.



- Click New application...



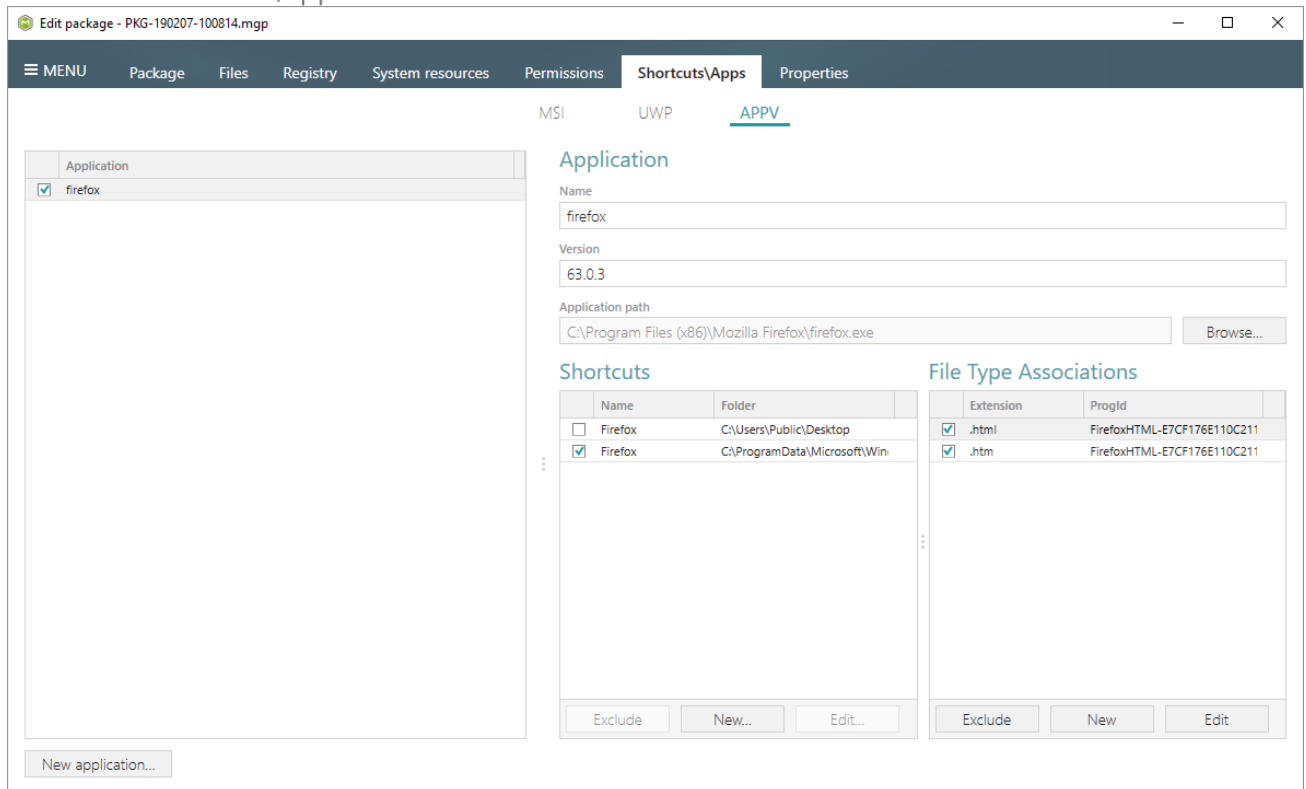
- Choose an app executable file and click Select.



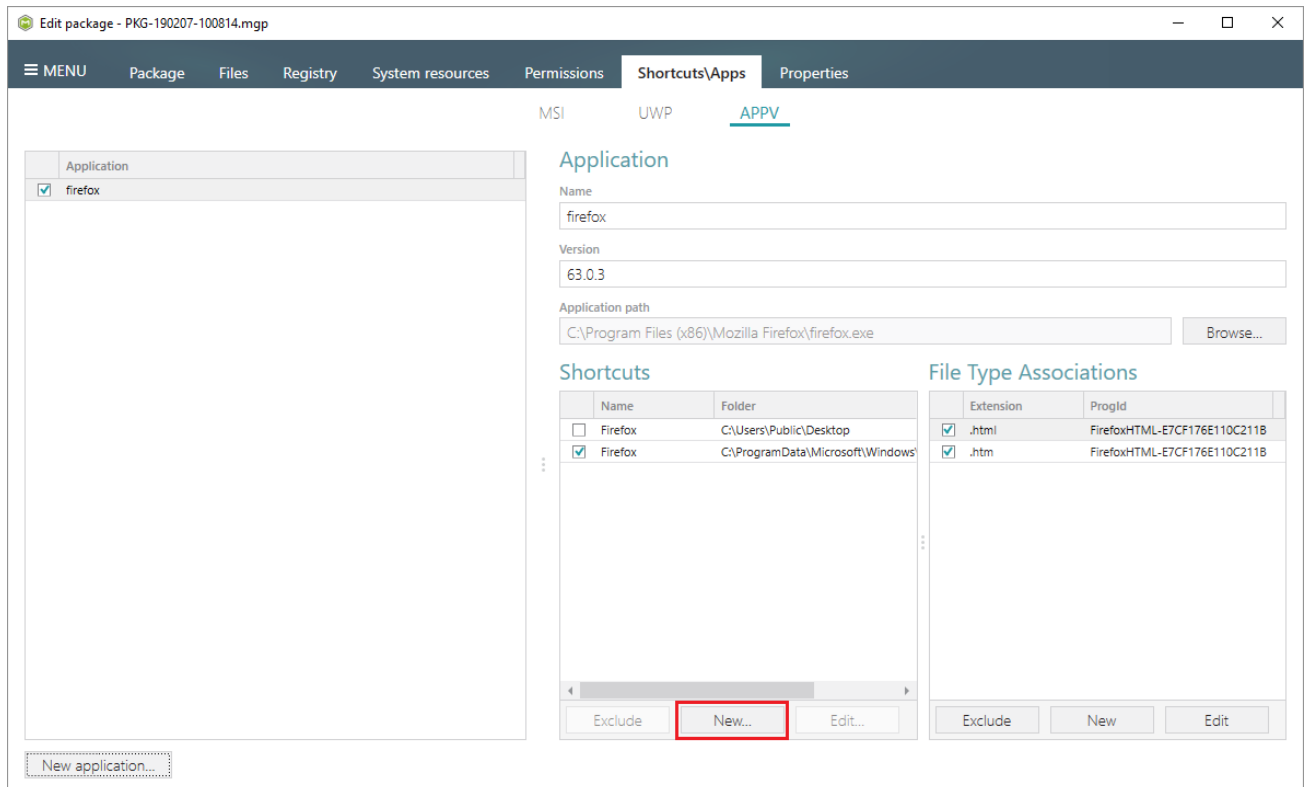
3.8.8.5.4 Add App Shortcut

Add an app shortcut to the package.

- Go to the Shortcuts\Apps -> APPV tab.



- Choose an app from the list, for which you want to add a shortcut and click New... in the Shortcuts section.



- Enter a shortcut name, select its destination folder, start in (working directory), run parameter and icon. Afterwards, click **Save**.

Shortcut

Name: My shortcut

Folder: C:\Program Files (x86)\Mozilla Firefox

Arguments:

Start in: C:\Program Files (x86)\Mozilla Firefox

Run: Normal

Icon: Change icon

Save Cancel

3.8.8.5 Add App FTA

Add an app FTA (File Type Association) to the package.

- Go to the Shortcuts\Apps -> APPV tab.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions **Shortcuts/Apps** Properties

MSI UWP APPV

Application

Name: firefox

Version: 63.0.3

Application path: C:\Program Files (x86)\Mozilla Firefox\firefox.exe Browse...

Shortcuts

Name	Folder
<input type="checkbox"/> Firefox	C:\Users\Public\Desktop
<input checked="" type="checkbox"/> Firefox	C:\ProgramData\Microsoft\Win

Exclude New... Edit...

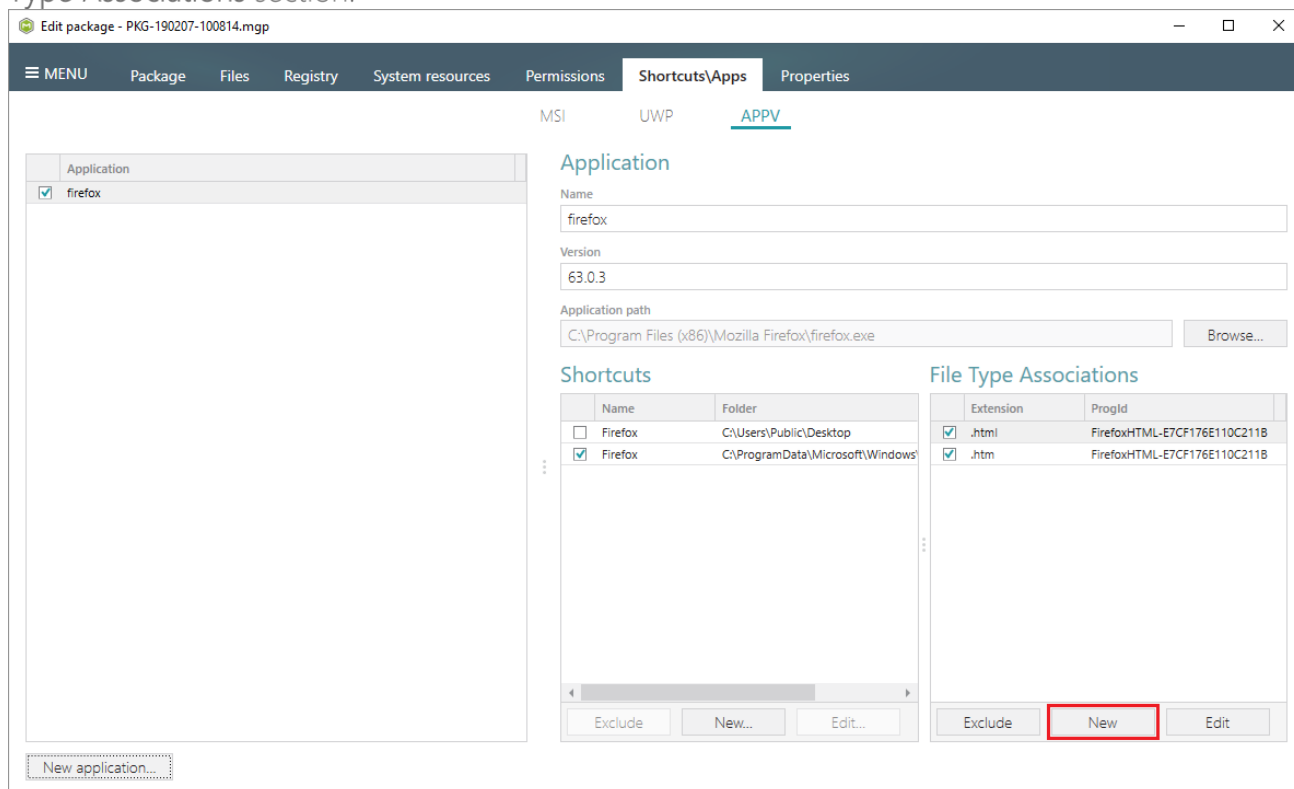
File Type Associations

Extension	ProgId
<input checked="" type="checkbox"/> .html	FirefoxHTML-E7CF176E110C211
<input checked="" type="checkbox"/> .htm	FirefoxHTML-E7CF176E110C211

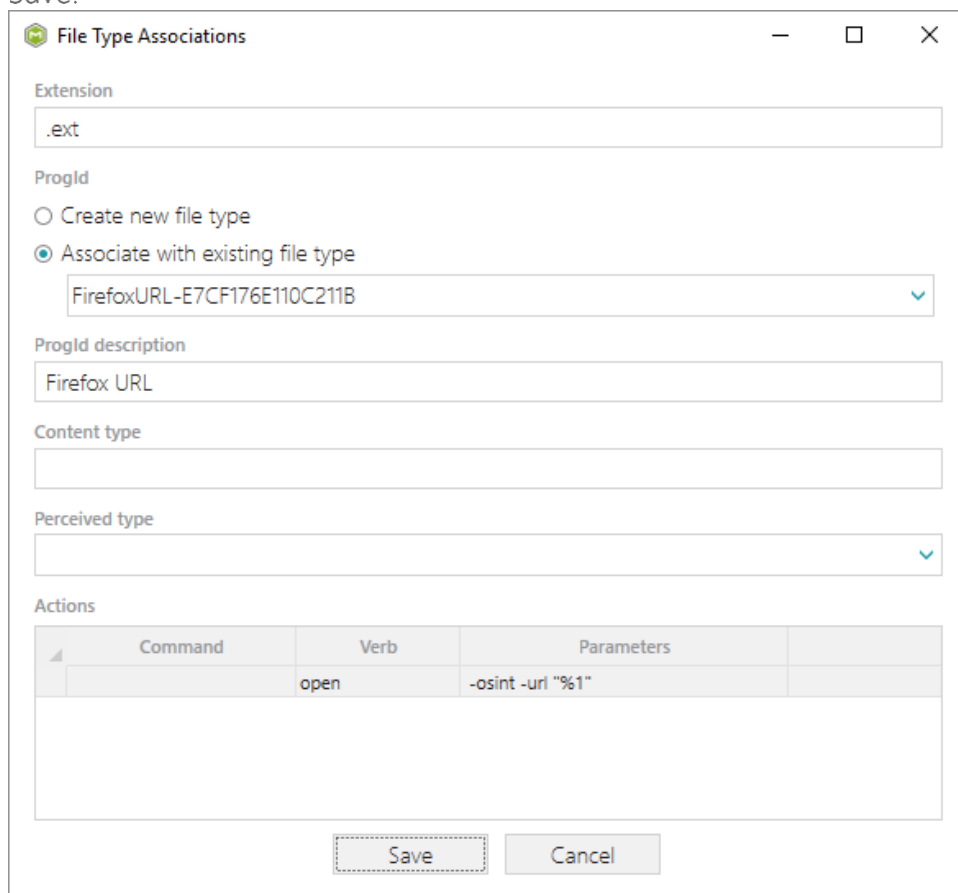
Exclude New Edit

New application...

- Choose an app from the list, for which you want to add an FTA and click New... in the File Type Associations section.



- Specify an extension, ProgId, content and perceived types, context menu commands and click Save.



3.8.9 THINAPP Settings

Choose a scenario that better suits your needs:

- Set Entry Points, described in section 3.8.9.1
Select which of package executable (EXE) files that will be shortcuts into the virtual environment.
- Define Primary Data Container, described in section 3.8.9.2
Define how the virtual file system, virtual registry and ThinApp runtime will be stored in the package: as a separate file (usually DAT) or within one of entry points.

3.8.9.1 Set Entry Points

Select which of package executable (EXE) files that will be shortcuts into the virtual environment. For information, see [Defining Entry Points as Shortcuts into the Virtual Environment](#).

- Go to the Package -> THINAPP tab.

ThinApp Settings

Entry points

Name	Description
<input checked="" type="checkbox"/> Firefox.exe	C:\Program Files (x86)\Mozilla Firefox\firefox.exe
<input type="checkbox"/> crashreporter.exe	C:\Program Files (x86)\Mozilla Firefox\crashreporter.exe
<input type="checkbox"/> firefox (1).exe	C:\Program Files (x86)\Mozilla Firefox\firefox.exe
<input type="checkbox"/> maintenanceservice.exe	C:\Program Files (x86)\Mozilla Firefox\maintenanceservice.exe
<input type="checkbox"/> maintenanceservice_installer.exe	C:\Program Files (x86)\Mozilla Firefox\maintenanceservice_installer.exe
<input type="checkbox"/> minidump-analyzer.exe	C:\Program Files (x86)\Mozilla Firefox\minidump-analyzer.exe
<input type="checkbox"/> pingsender.exe	C:\Program Files (x86)\Mozilla Firefox\pingsender.exe
<input type="checkbox"/> plugin-container.exe	C:\Program Files (x86)\Mozilla Firefox\plugin-container.exe

Primary data container

☒ Use one of the entry points
Firefox.exe

☐ Use separate .DAT file
Firefox.dat

Compression

☐ Compress virtual package

File system isolation mode

Full write access to non-system directories (Merged)

Sandbox location

☒ User profile (%AppData%\Thinstall)
☐ Custom location

ThinApp Package Options

Inventory name
Firefox

☐ Generate MSI package:
Mozilla Maintenance Service.msi

Project location
C:\Users\pace\Documents\MSI Generator\Packages\PKG-1

Build Details

☐ Wow64=0
☒ AltArchitectureShortcut=1
☐ LoadDotNetFromSystem=Win7
☐ Only prepare ThinApp package structure
☒ Prepare ThinApp package structure and build the package

BUILD LOG

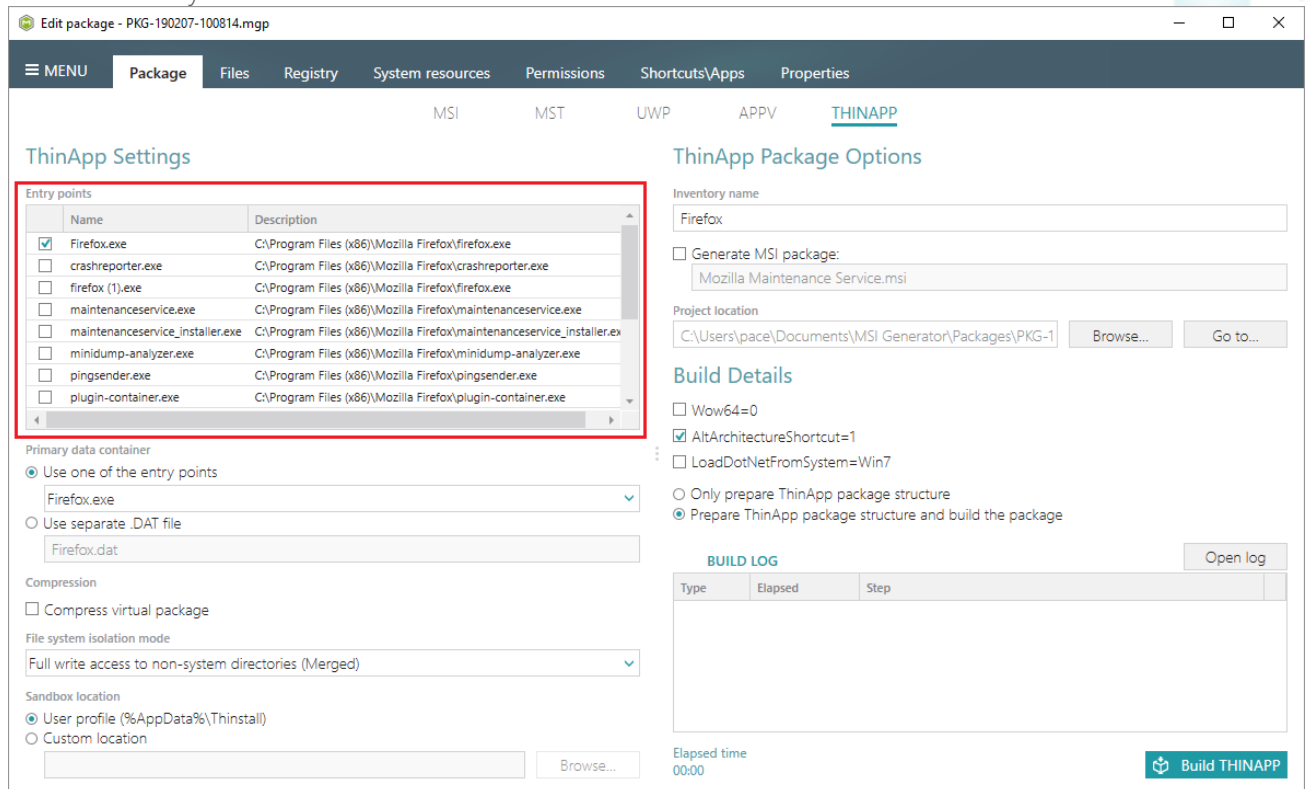
Type	Elapsed	Step

Elapsed time
00:00

Build THINAPP

- Select executable files from the **Entry points** list, which you want to define as shortcuts into the virtual environment that will start the virtual application.
NOTE In the end of the list you can find the cmd.exe and regedit.exe entry points, used to

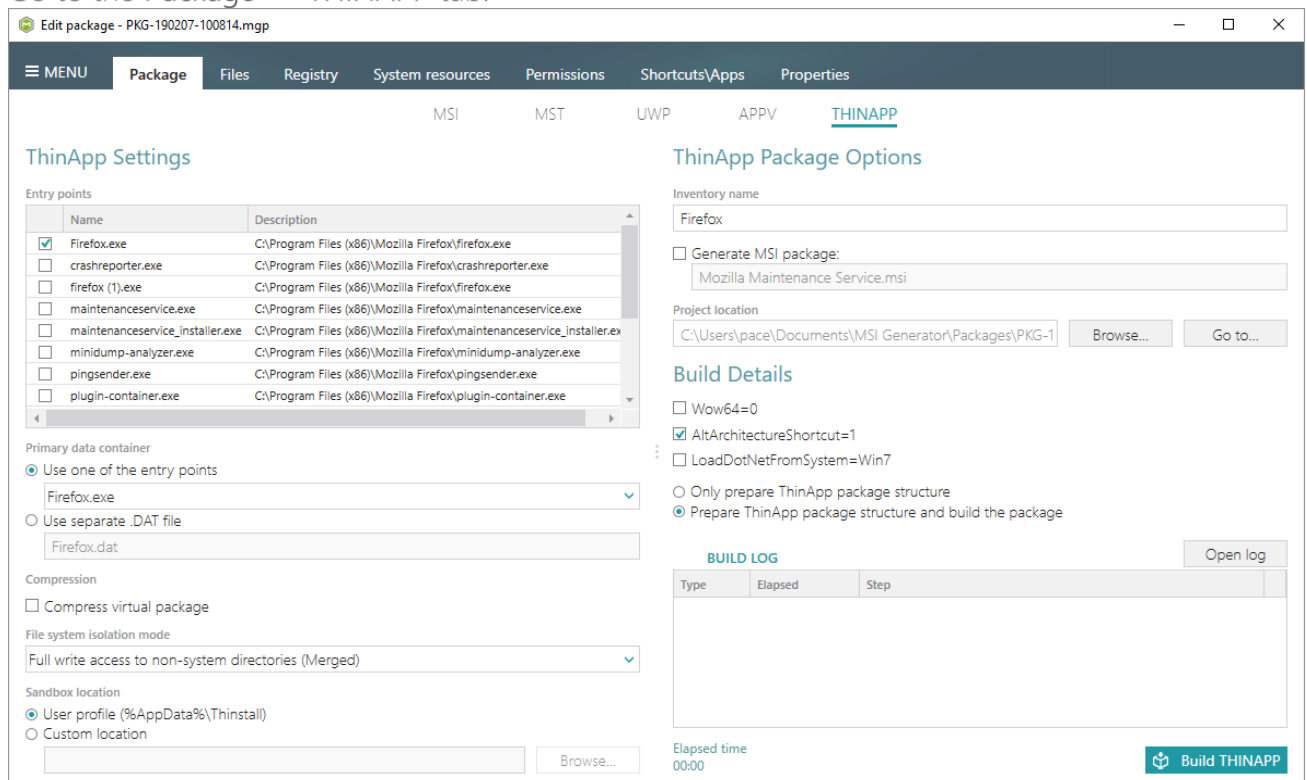
troubleshoot your environment.



3.8.9.2 Define Primary Data Container

Define how the virtual file system, virtual registry and ThinApp runtime will be stored in the package: as a separate file (usually DAT) or within one of entry points. For information, see [Defining the Primary Data Container](#).

- Go to the Package -> THINAPP tab.



- Select the necessary primary data container settings.

Edit package - PKG-190207-100814.mgp

Package | Files | Registry | System resources | Permissions | Shortcuts\Apps | Properties

MSI | MST | UWP | APPV | **THINAPP**

ThinApp Settings

Entry points

Name	Description
<input checked="" type="checkbox"/> Firefox.exe	C:\Program Files (x86)\Mozilla Firefox\firefox.exe
<input type="checkbox"/> crashreporter.exe	C:\Program Files (x86)\Mozilla Firefox\crashreporter.exe
<input type="checkbox"/> firefox (1).exe	C:\Program Files (x86)\Mozilla Firefox\firefox.exe
<input type="checkbox"/> maintenanceservice.exe	C:\Program Files (x86)\Mozilla Firefox\maintenanceservice.exe
<input type="checkbox"/> maintenanceservice_installer.exe	C:\Program Files (x86)\Mozilla Firefox\maintenanceservice_installer.exe
<input type="checkbox"/> minidump-analyzer.exe	C:\Program Files (x86)\Mozilla Firefox\minidump-analyzer.exe
<input type="checkbox"/> pingsender.exe	C:\Program Files (x86)\Mozilla Firefox\pingsender.exe
<input type="checkbox"/> plugin-container.exe	C:\Program Files (x86)\Mozilla Firefox\plugin-container.exe

Primary data container

- ☒ Use one of the entry points
Firefox.exe
- ☐ Use separate .DAT file
Firefox.dat

Compression

☐ Compress virtual package

File system isolation mode

Full write access to non-system directories (Merged)

Sandbox location

- ☒ User profile (%AppData%\Thinstall)
- ☐ Custom location

ThinApp Package Options

Inventory name: Firefox

☐ Generate MSI package:
Mozilla Maintenance Service.msi

Project location

C:\Users\pace\Documents\MSI Generator\Packages\PKG-1 **Browse...** **Go to...**

Build Details

☐ Wow64=0

☒ AltArchitectureShortcut=1

☐ LoadDotNetFromSystem=Win7

☐ Only prepare ThinApp package structure

☒ Prepare ThinApp package structure and build the package

BUILD LOG **Open log**

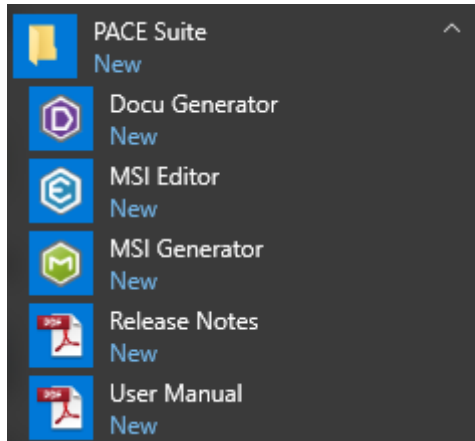
Type	Elapsed	Step
------	---------	------

Elapsed time: 00:00

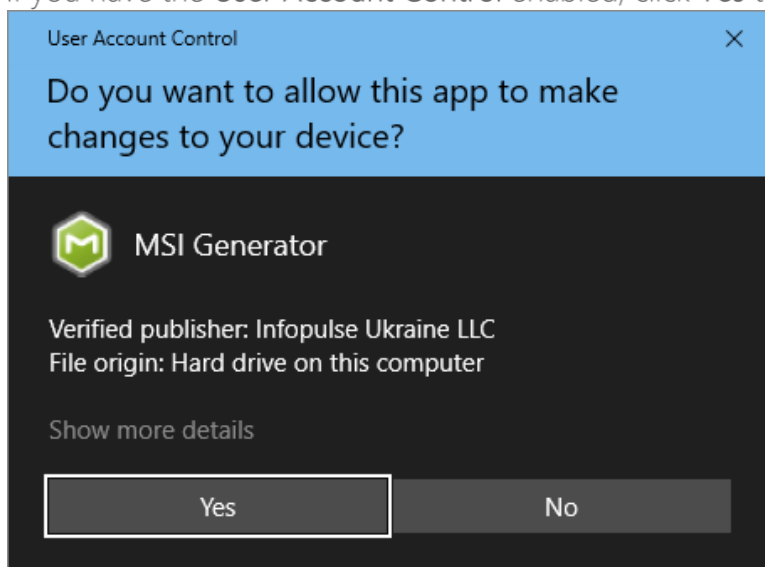
Build THINAPP

3.9 Edit APPV

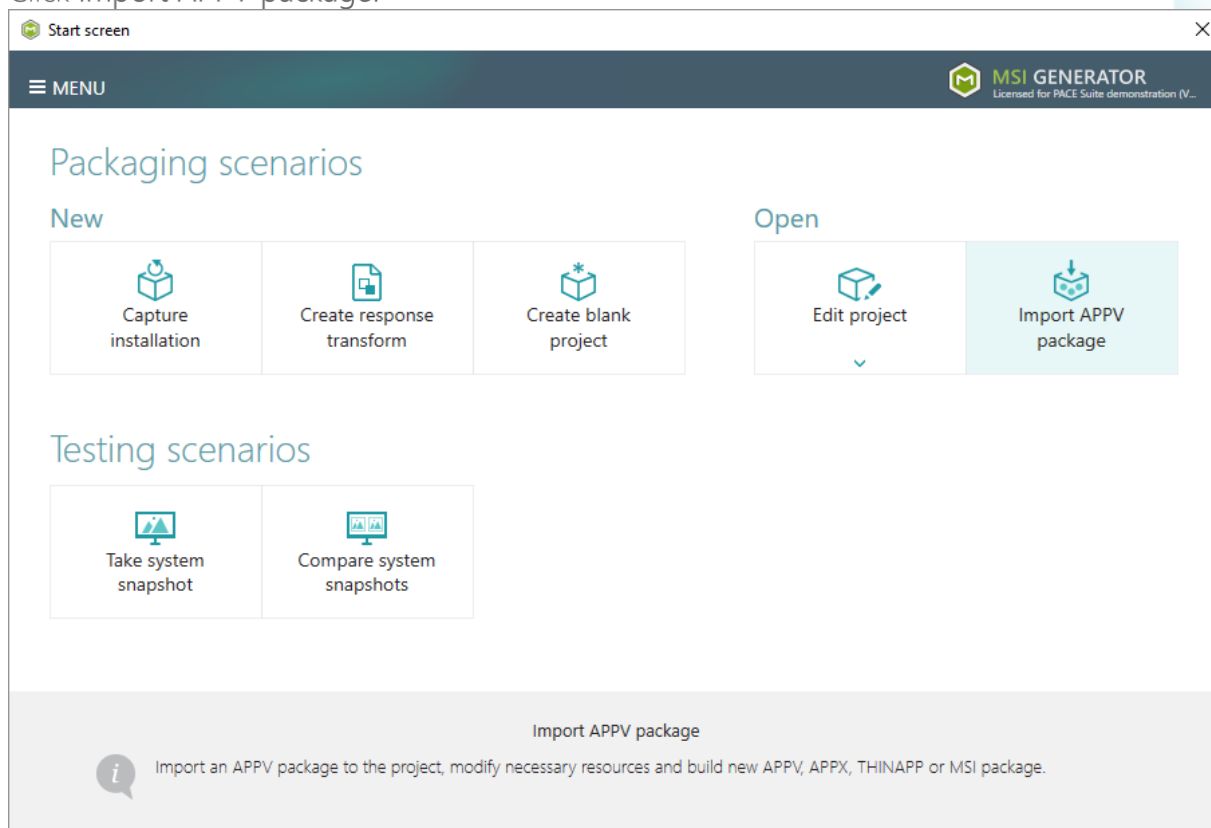
- Launch MSI Generator from the desktop of the start menu shortcut.



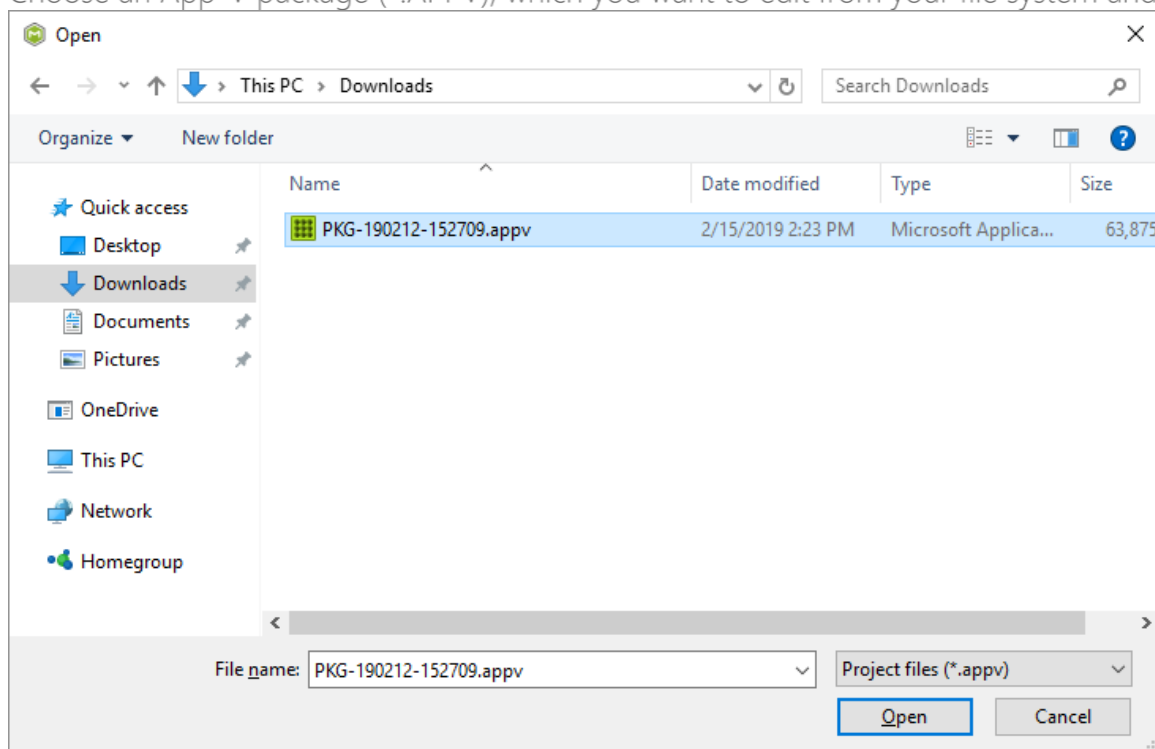
- If you have the User Account Control enabled, click Yes to launch the application.



- Click Import APPV package.



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



- For managing project resources such as files, folders, registry, and shortcuts, refer to the respective section of this document:
 - Regarding File and Folders see section 3.8.2
 - Regarding Registry see section 3.8.3

- For managing APPV Settings such as application details, target OS, PVAD, streamin settings, APPV version, virtualization level for the folders and registry keys, APPV apps, their shortcuts and file type associations (FTA), see section 3.8.8
- Finally, to generate an APPV package navigate to the Package -> APPV tab and click Build APPV.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP **APPV** THINAPP

Application Details

Application name:

Version:

Publisher:

App-V Settings

Primary virtual application directory (PVAD):

Streaming options:

- ☐ Force application to be fully downloaded before launching.

Target OS:

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

Advanced options:

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

App-V Package Options

App-V version:

Package name:

Package folder:

Description:

BUILD LOG

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

Elapsed time: 00:00

- Once the package is built, click Go to..., located next to the Project folder field, to open the package-containing folder in Windows Explorer.

Edit package - PKG-190207-100814.mgp

MENU Package Files Registry System resources Permissions Shortcuts/Apps Properties

MSI MST UWP **APPV** THINAPP

Application Details

Application name:

Version:

Publisher:

App-V Settings

Primary virtual application directory (PVAD):

Streaming options:

- ☐ Force application to be fully downloaded before launching.

Target OS:

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

Advanced options:

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

App-V Package Options

App-V version:

Package name:

Package folder:

Description:

BUILD LOG

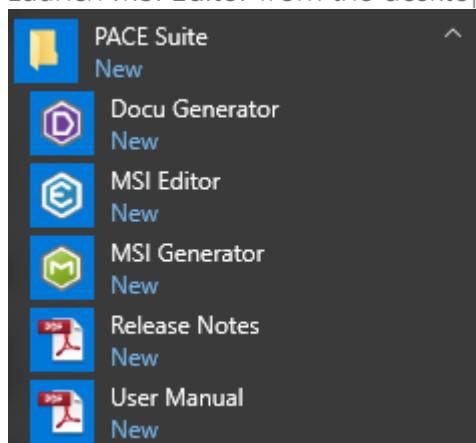
Type	Elapsed	Step
■	00:00:30	Operation was completed successfully
■	00:00:08	Saving package
■	00:00:08	Processing software clients
■	00:00:08	Processing environment variables
■	00:00:08	Processing URL protocols
■	00:00:08	Processing application capabilities
■	00:00:08	Processing FTAs
■	00:00:08	Processing browser plugins
■	00:00:07	Processing COM objects
■	00:00:07	Processing services
■	00:00:07	Processing registry

Elapsed time: 00:00:30

3.10 Deploy MSI to SCCM

NOTE For publishing MSI packages to Microsoft SCCM 2007 (SP1/SP2/R1/R2) or SCCM 2012 (SP1/SP2/R2/R2 SP1) server, ensure that your system contains Microsoft Management Framework 3.0 and Windows Remote Management (WinRM) service enabled.

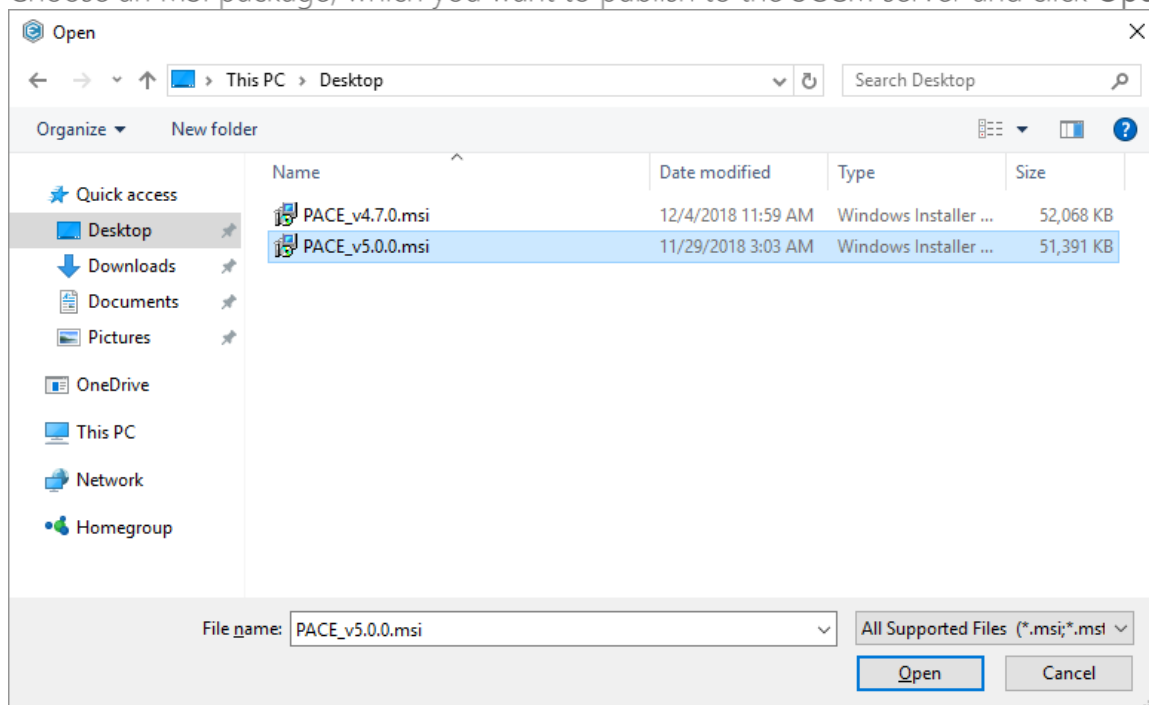
- Launch MSI Editor from the desktop or the start menu shortcut.



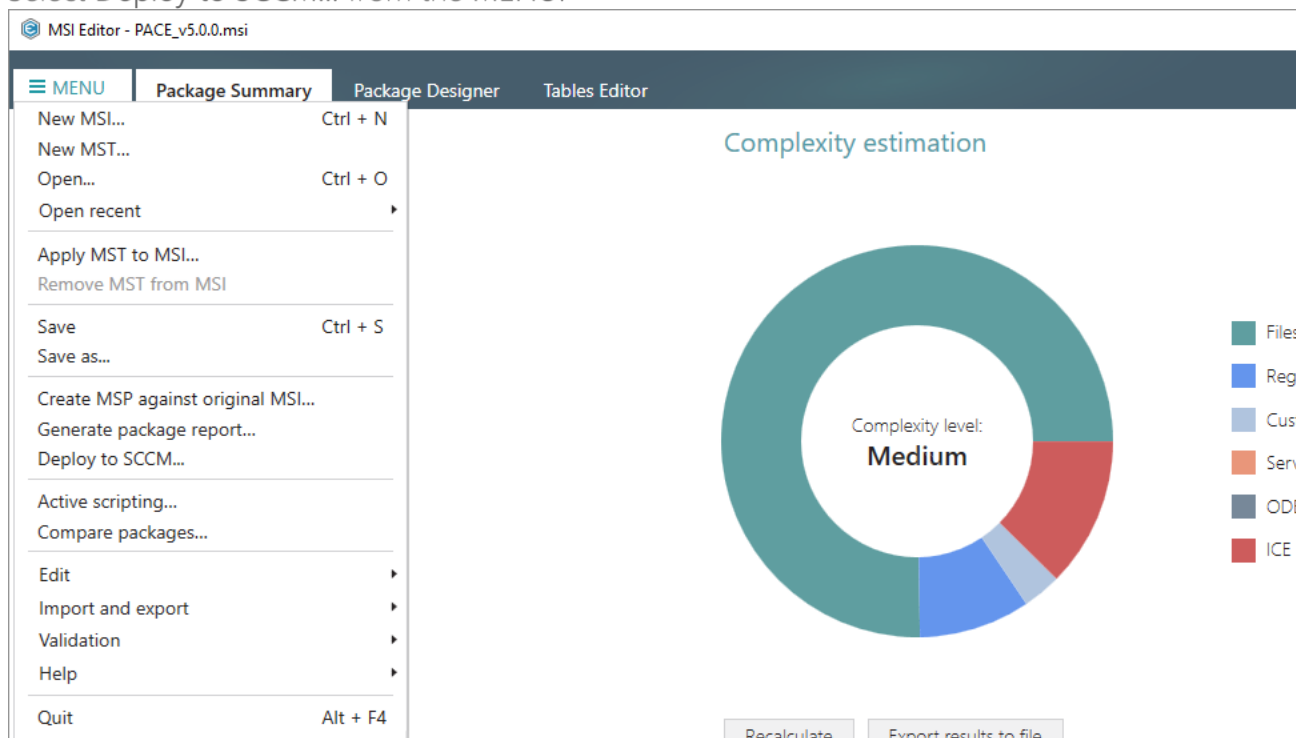
- Select Open... from MENU.



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



- Select Deploy to SCCM... from the MENU.



- 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.

Publish package to SCCM

Progress bar: SCCM server (active), Package definition, Display information, Publish options, Select files, Publishing

SCCM server and network share settings

Specify an IP address or hostname of SCCM server

SCCM server:

User name: Password:

☐ Use Windows session credentials

Specify a network share where packages will be uploaded

Network share for packages:

User name: Password:

☐ Use Windows session credentials

[Test connections...](#)

Buttons: < Back, Next >, Cancel

- Select a suitable publishing model and click Next.

Publish package to SCCM

Progress bar: SCCM server (checked), Package definition (active), Display information, Publish options, Select files, Publishing

Package definition configuration

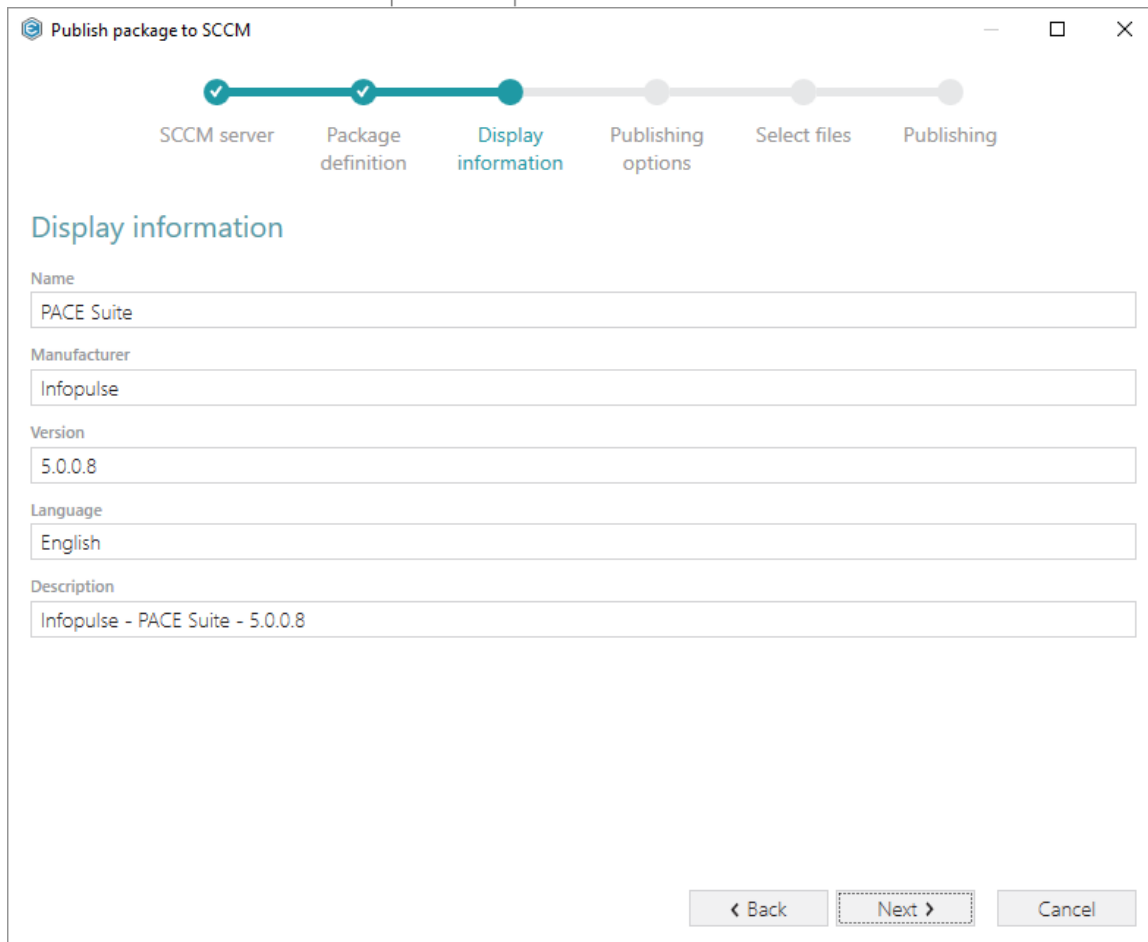
☒ Publish as a package
The classic way SCCM has used in the past for deploying software to devices and is fully supported in SCCM 2007-2012

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

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

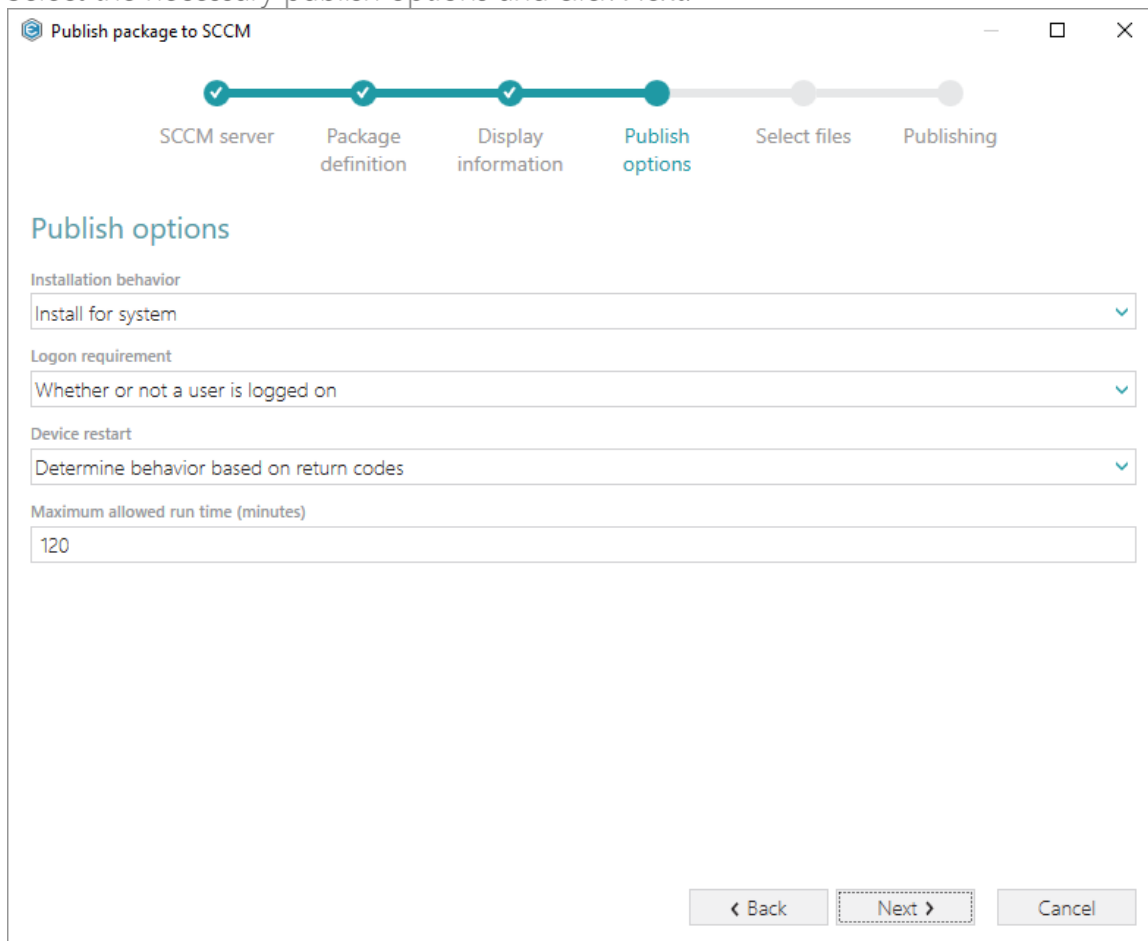
Buttons: < Back, Next > (highlighted), Cancel

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



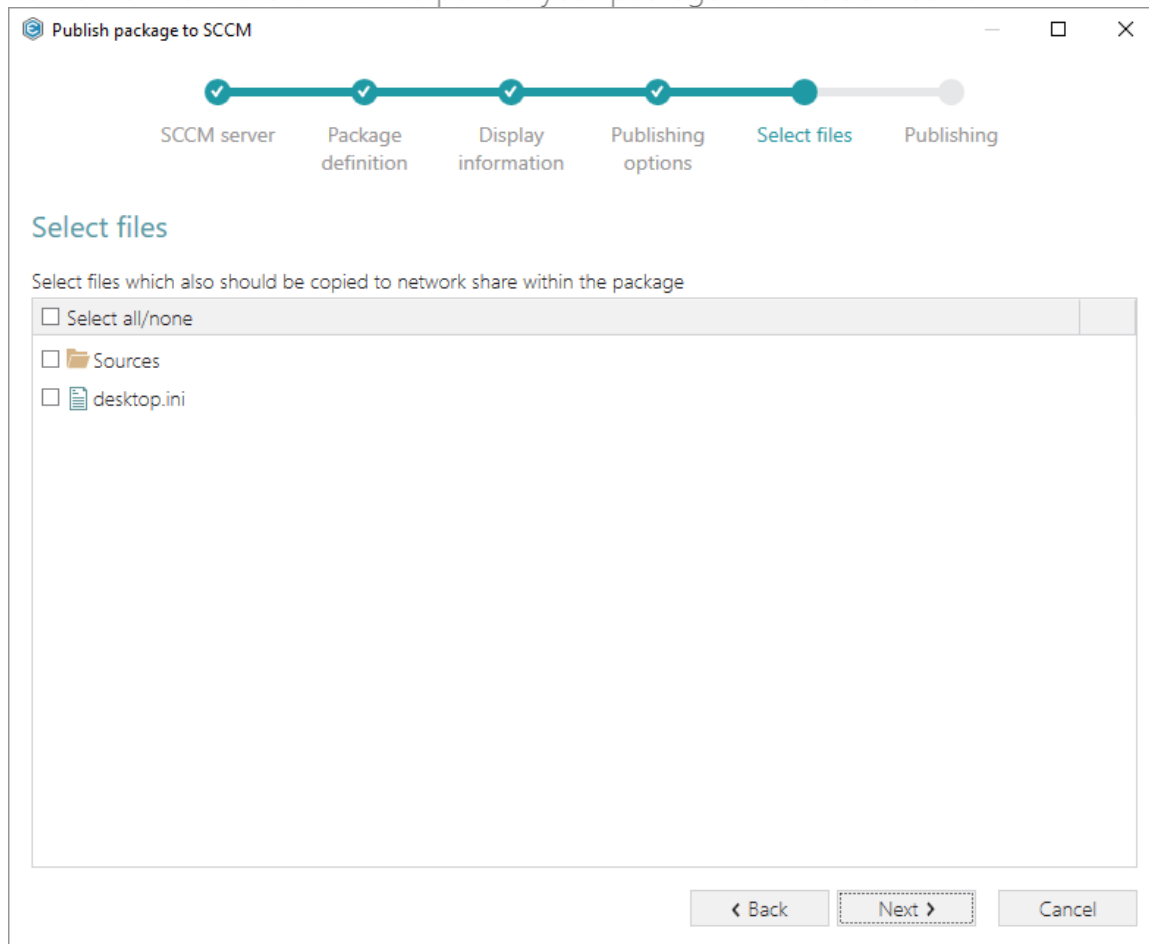
The screenshot shows the 'Publish package to SCCM' wizard window. At the top, a progress bar indicates the current step is 'Display information', which is highlighted in blue. The previous steps, 'SCCM server' and 'Package definition', are marked with checkmarks. The subsequent steps, 'Publishing options', 'Select files', and 'Publishing', are marked with grey circles. Below the progress bar, the 'Display information' section contains several input fields: 'Name' (PACE Suite), 'Manufacturer' (Infopulse), 'Version' (5.0.0.8), 'Language' (English), and 'Description' (Infopulse - PACE Suite - 5.0.0.8). At the bottom right, there are three buttons: '< Back', 'Next >' (which is highlighted with a dashed border), and 'Cancel'.

- Select the necessary publish options and click Next.

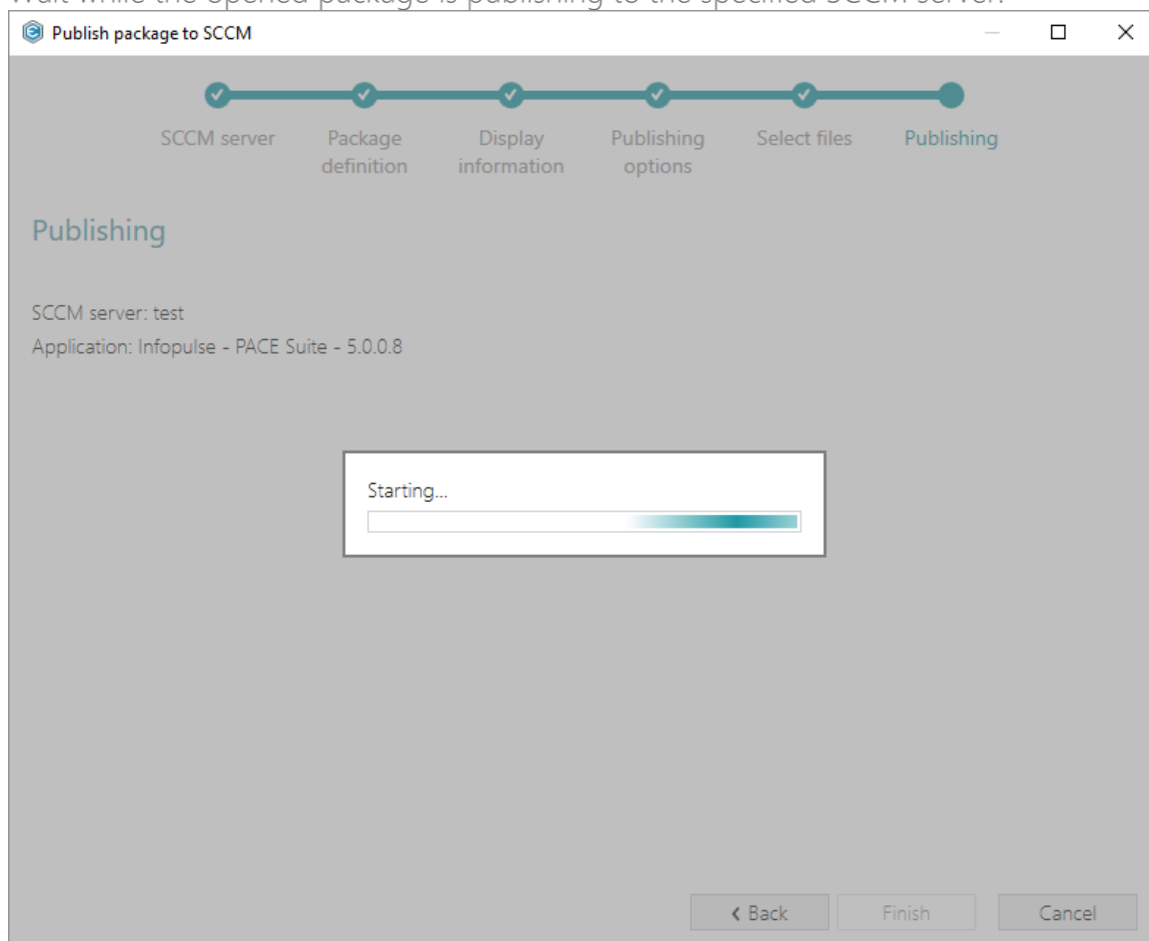


The screenshot shows the 'Publish package to SCCM' wizard window at the 'Publish options' step. The progress bar now shows 'Publish options' as the current step, highlighted in blue, with 'SCCM server', 'Package definition', and 'Display information' marked with checkmarks. The 'Publish options' section contains four dropdown menus: 'Installation behavior' (Install for system), 'Logon requirement' (Whether or not a user is logged on), 'Device restart' (Determine behavior based on return codes), and 'Maximum allowed run time (minutes)' (120). At the bottom right, there are three buttons: '< Back', 'Next >' (highlighted with a dashed border), and 'Cancel'.

- 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.



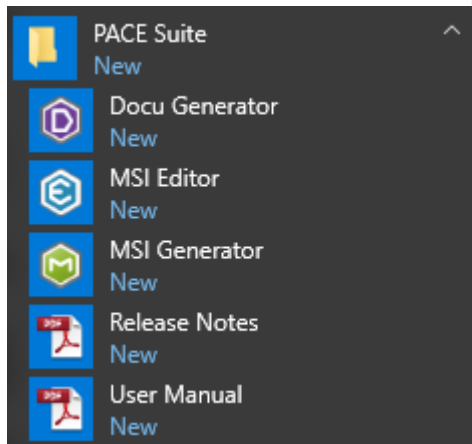
- Wait while the opened package is publishing to the specified SCCM server.



3.11 Generate MSI 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.

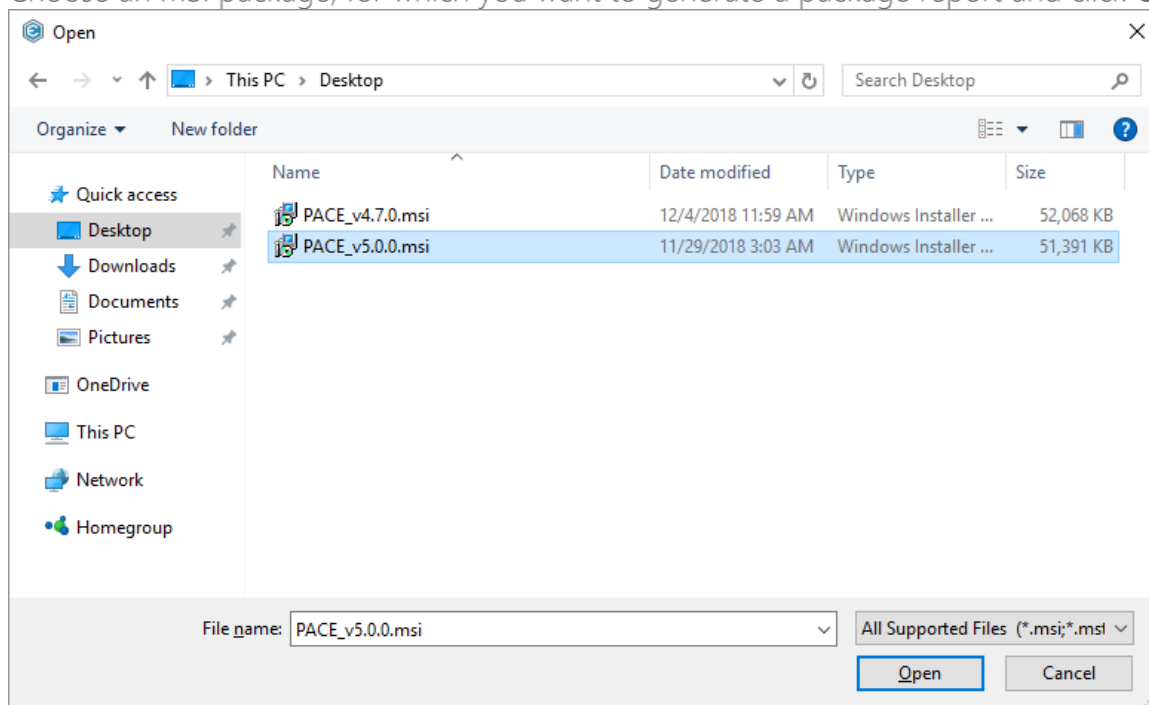
- Launch MSI Editor from the desktop or the start menu shortcut.



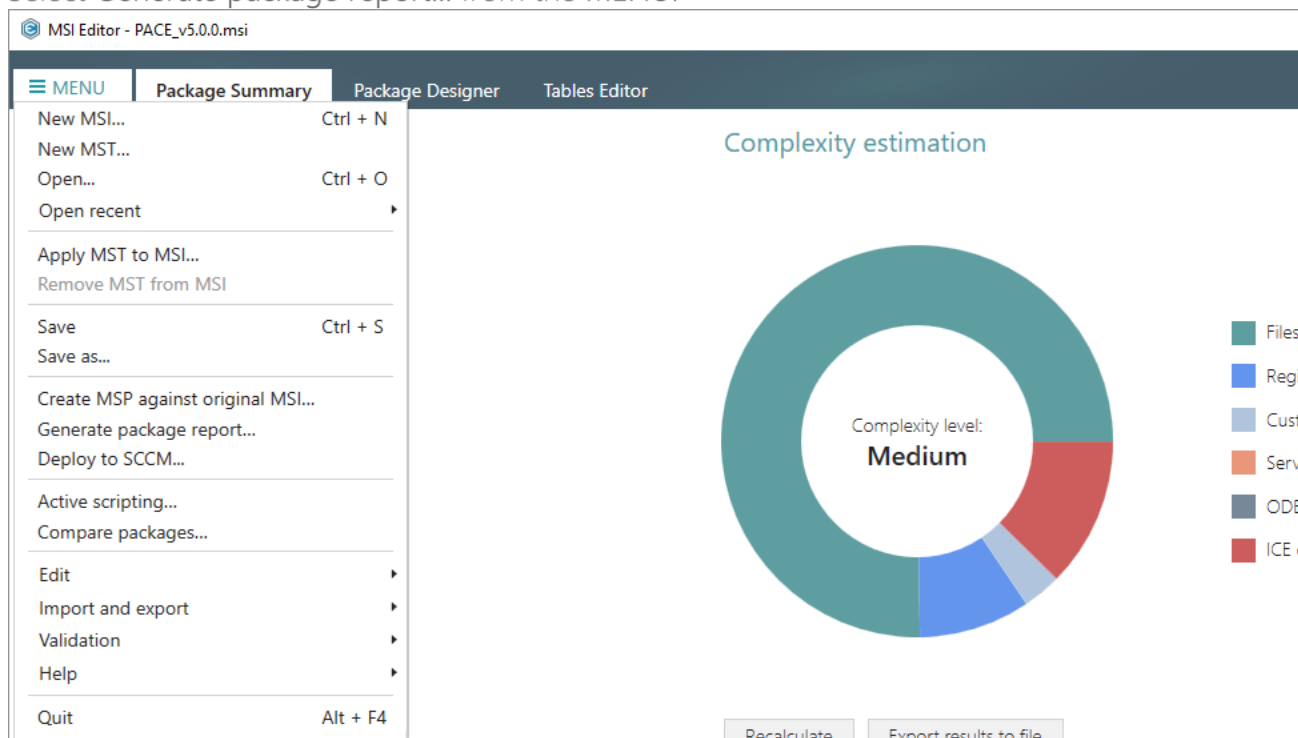
- Select Open... from MENU.



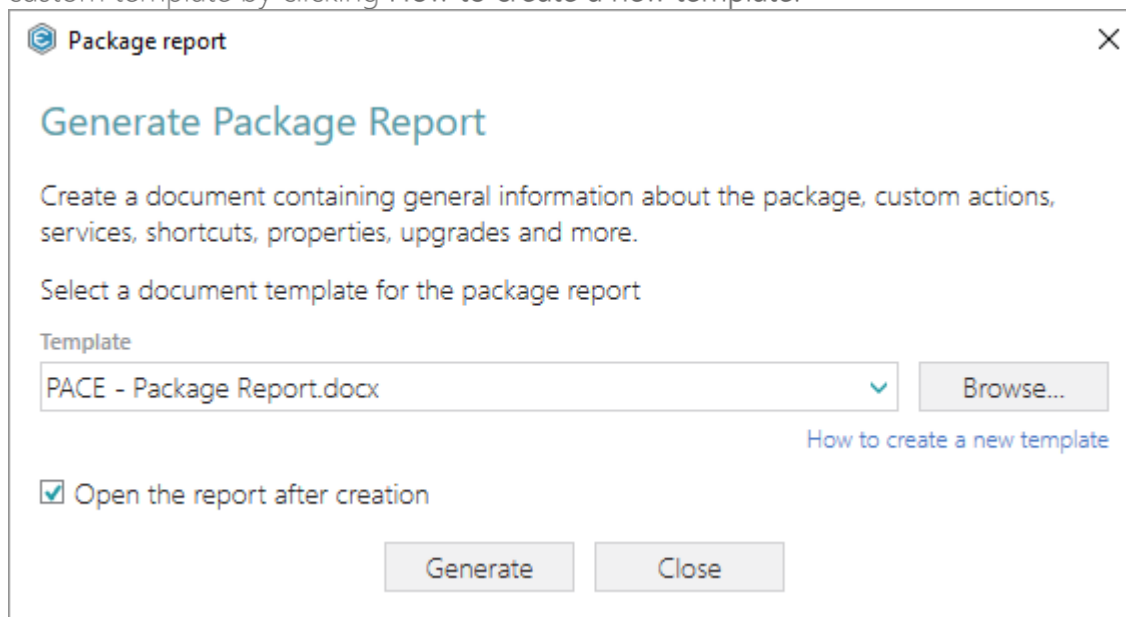
- Choose an MSI package, for which you want to generate a package report and click Open.



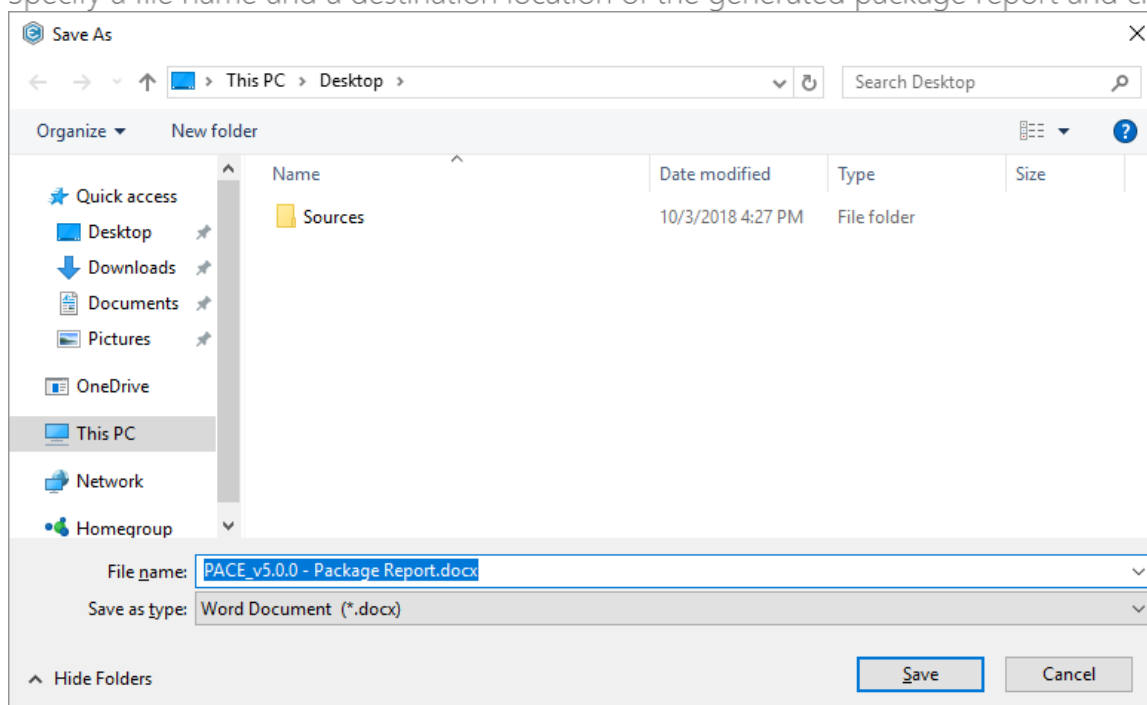
- Select Generate package report... from the MENU.



- Select a template for your report and click Generate. Find more information about creating a custom template by clicking How to create a new template.



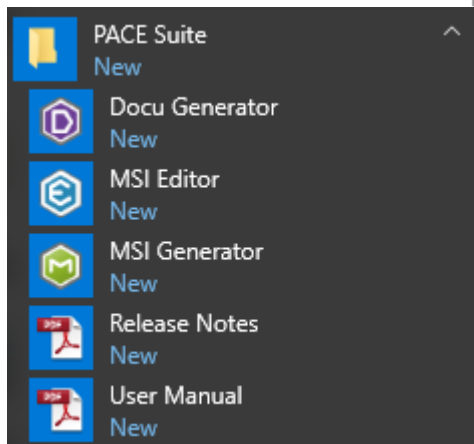
- Specify a file name and a destination location of the generated package report and click Save.



3.12 Validate MSI Package

Validate the MSI package using the [Internal Consistency Evaluators \(ICE\)](#).

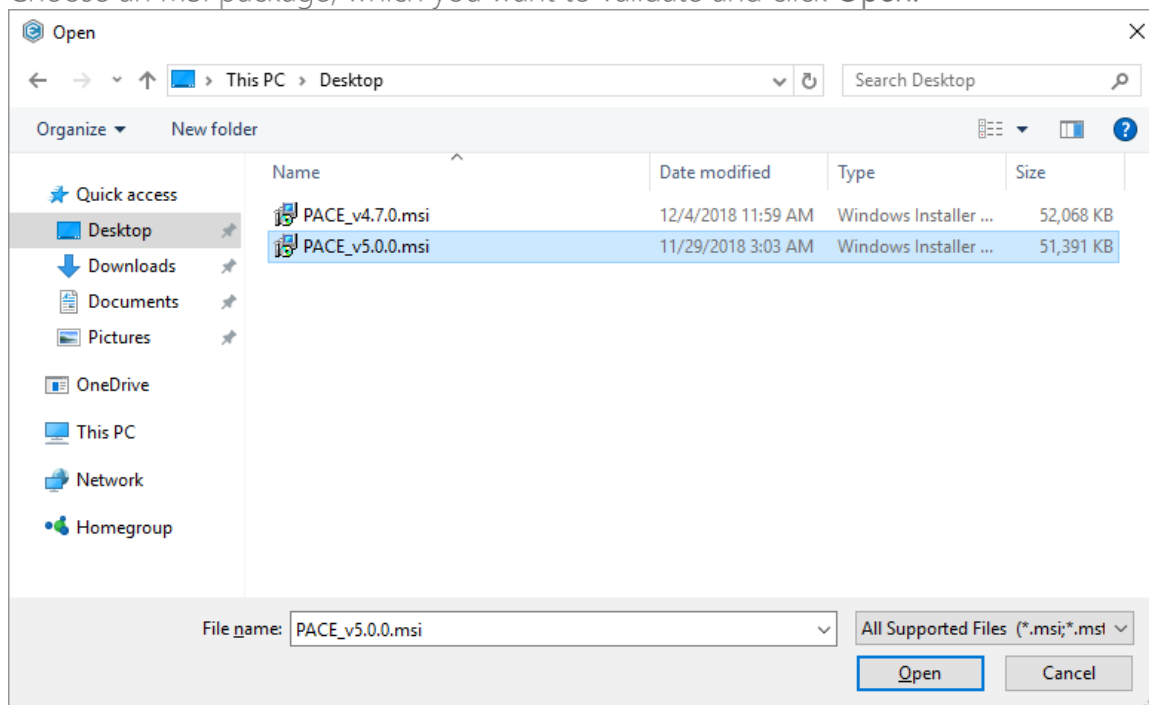
- Launch MSI Editor from the desktop or the start menu shortcut.



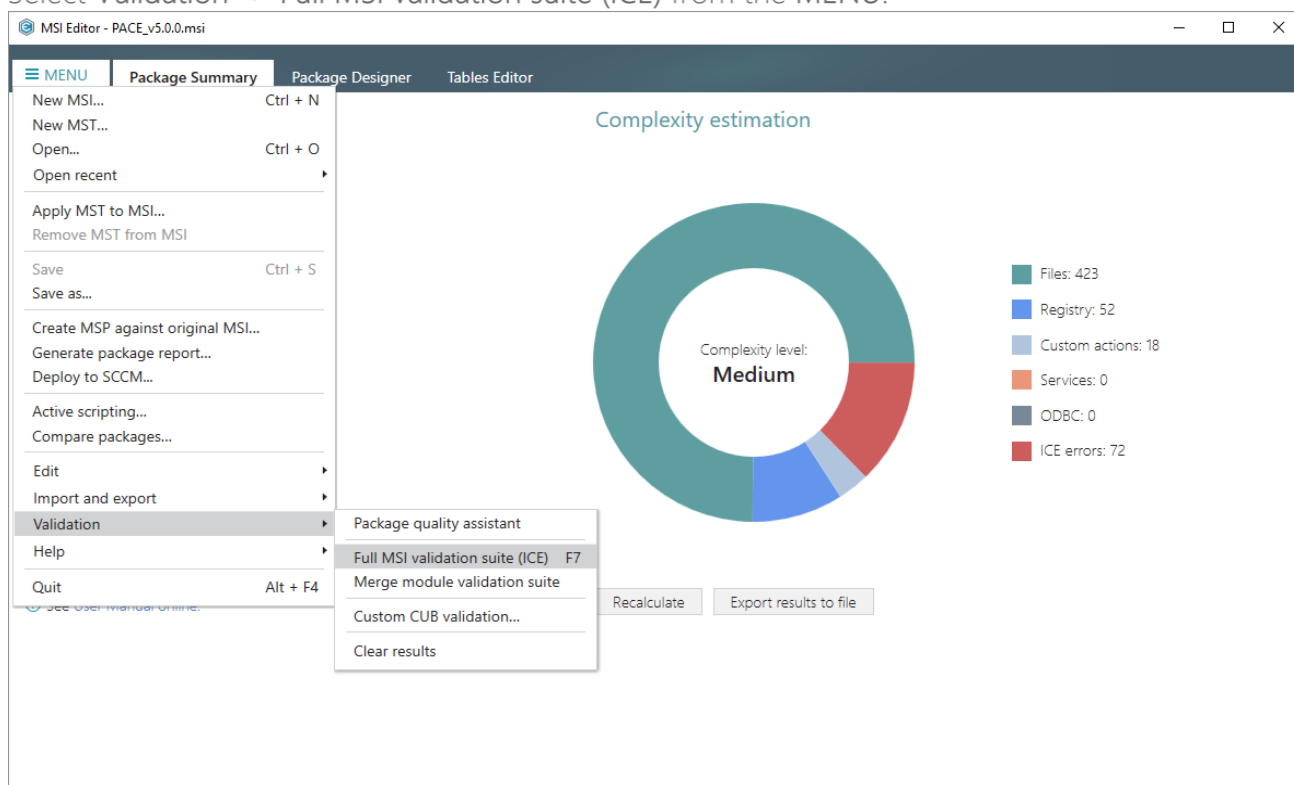
- Select Open... from MENU.



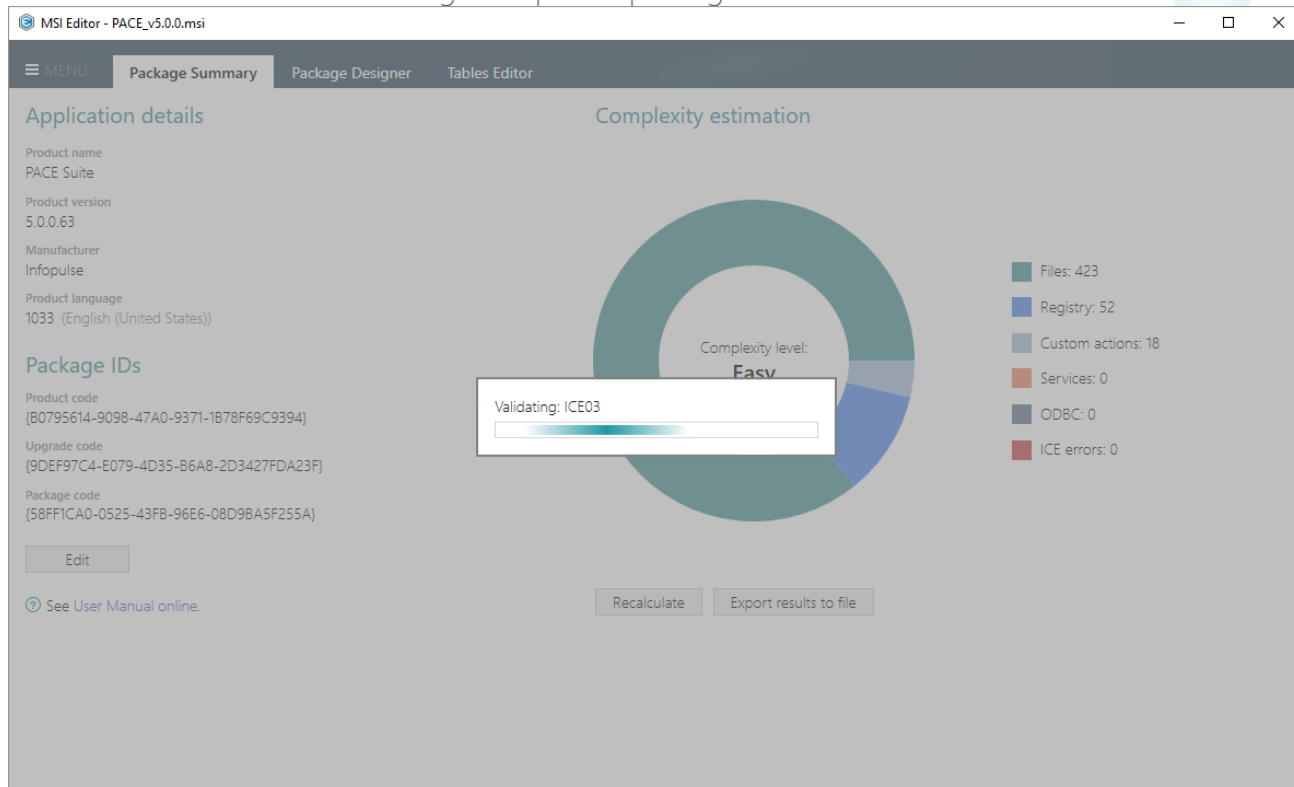
- Choose an MSI package, which you want to validate and click Open.



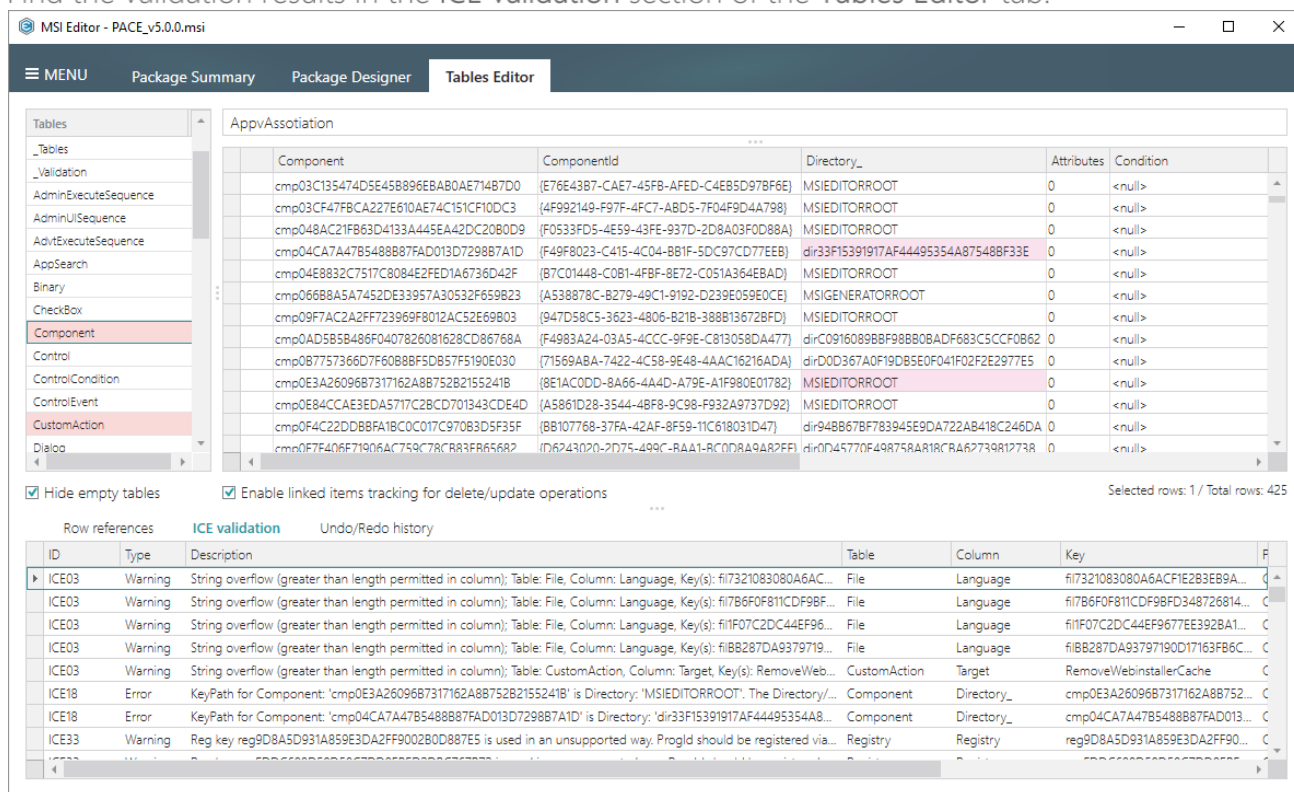
- Select Validation -> Full MSI validation suite (ICE) from the MENU.



- Wait while MSI Editor is validating the opened package.

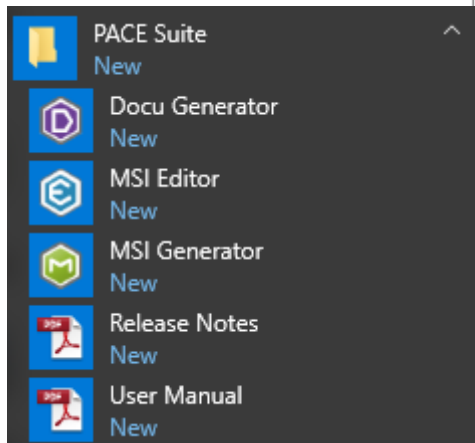


- Find the validation results in the ICE validation section of the Tables Editor tab.



3.13 Get MSI Package Complexity

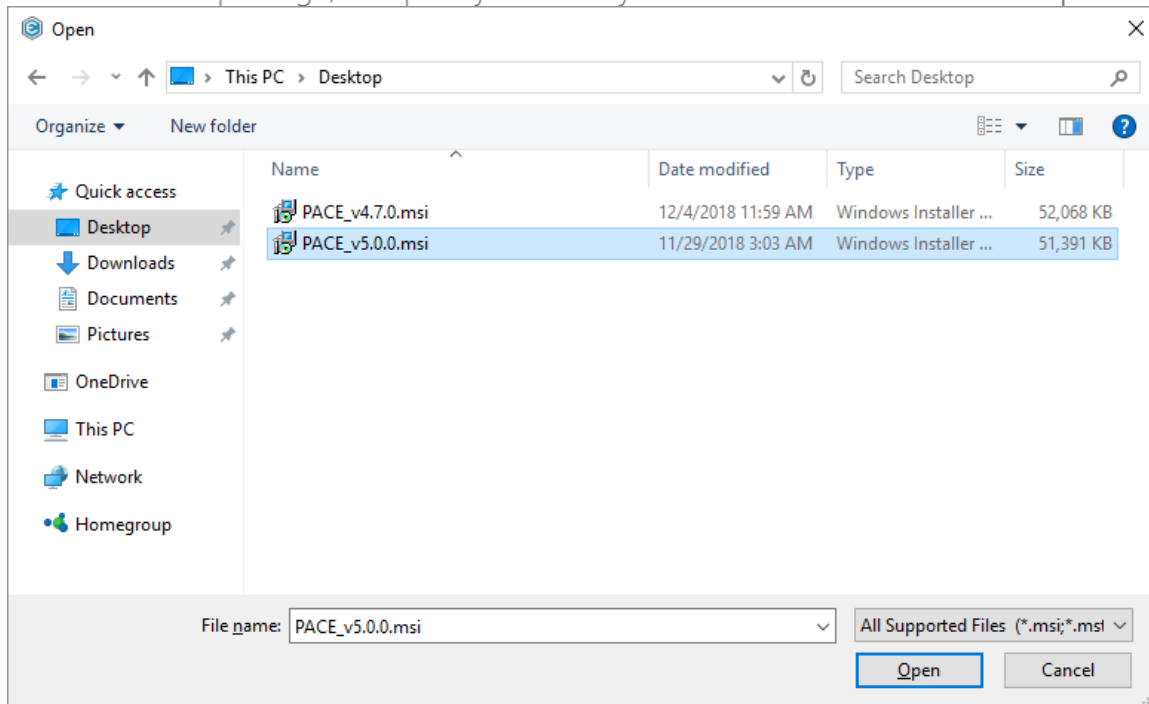
- Launch MSI Editor from the desktop or the start menu shortcut.



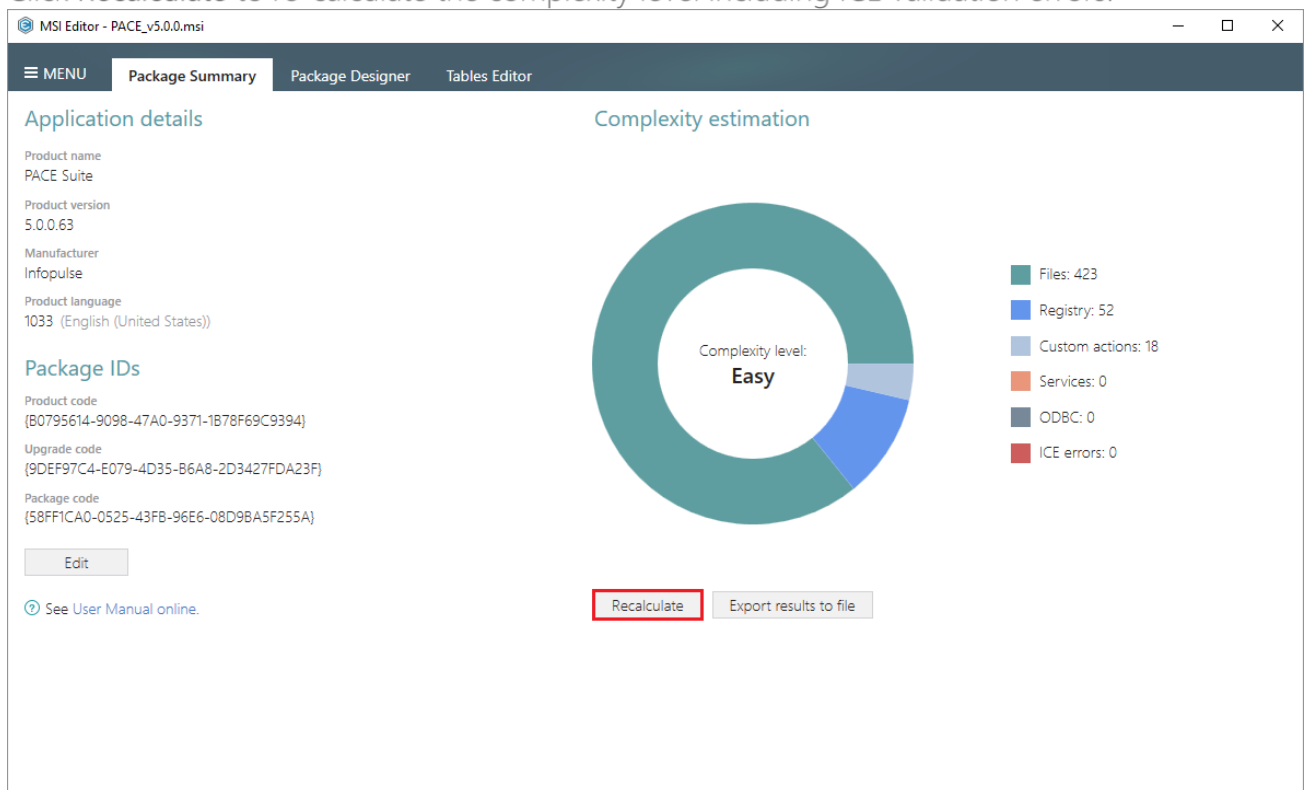
- Select Open... from MENU.



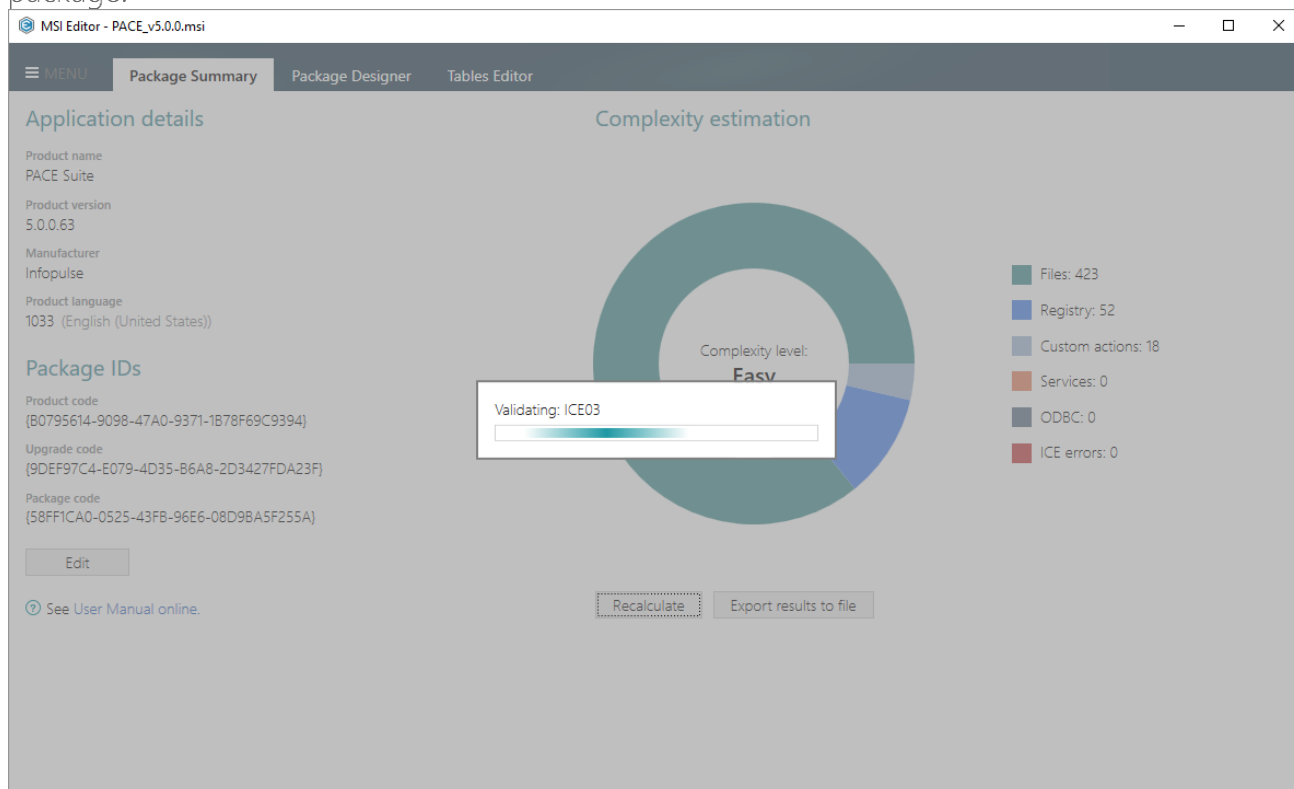
- Choose an MSI package, complexity of which you want to calculate and click Open.



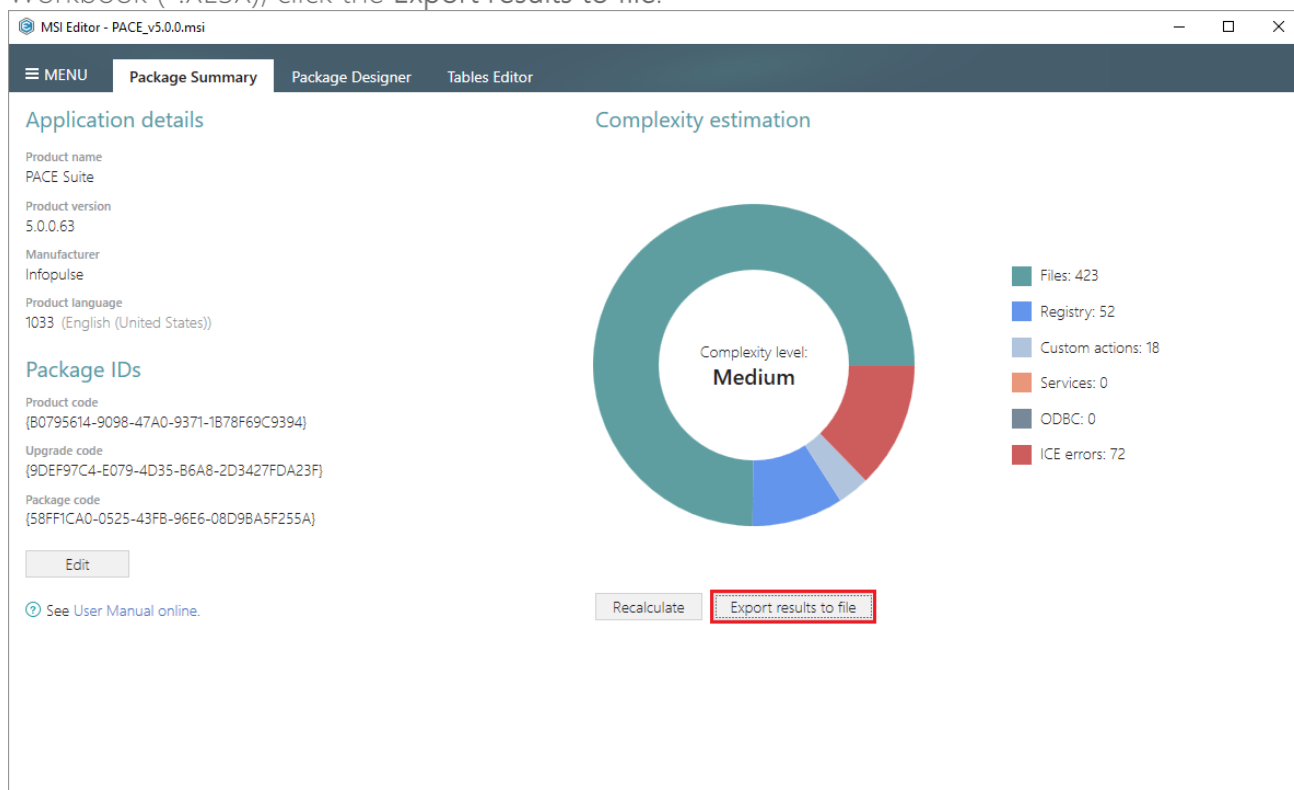
- Click Recalculate to re-calculate the complexity level including ICE validation errors.



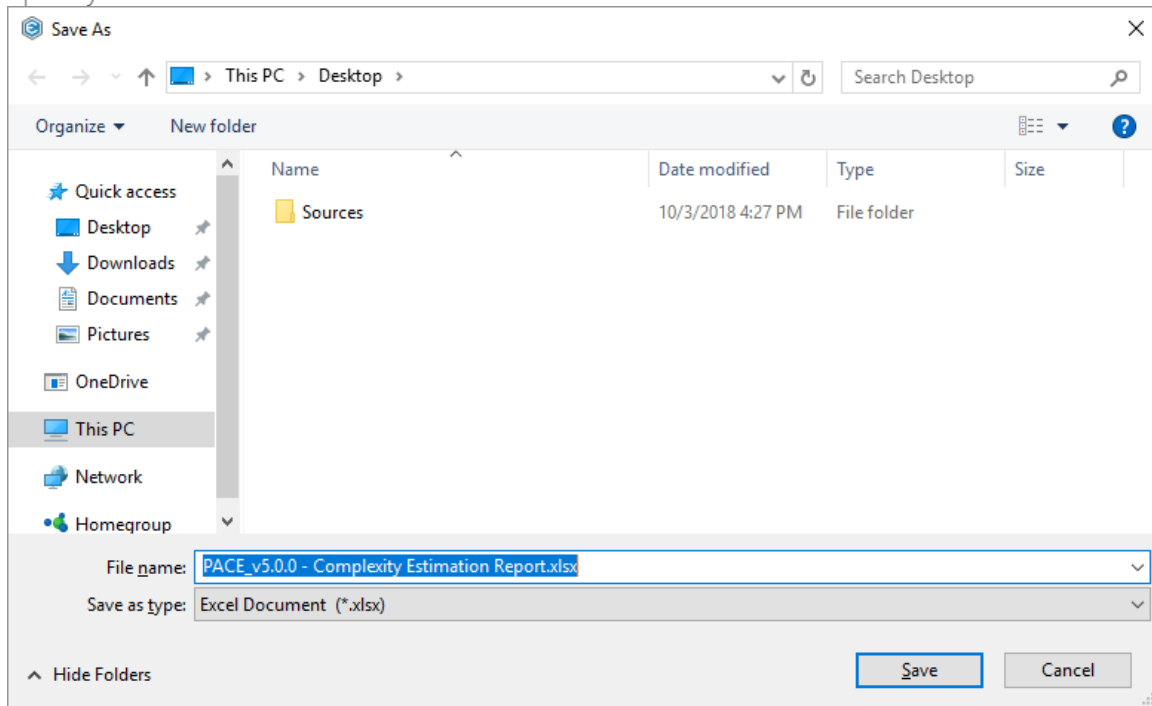
- Wait while MSI Editor is validating the package to get number of ICE errors of the opened MSI package.



- Find the complexity level and number of package resources on the Complexity estimation section of the Package Summary tab. To save the complexity estimation results to Excel Workbook (*.XLSX), click the Export results to file.



- Specify a file name and destination location for the file and click Save.

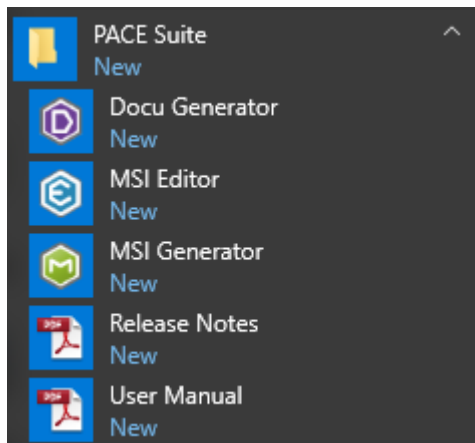


3.14 Create Discovery Documentation

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

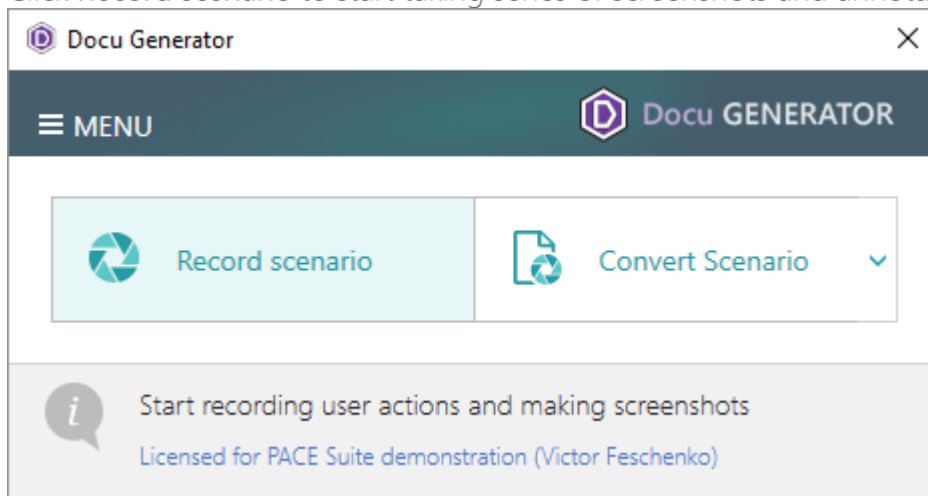
NOTE In order to take screenshots of application, which is launched with elevated permissions, launch Docu Generator with elevated permissions as well.

- Launch Docu Generator.



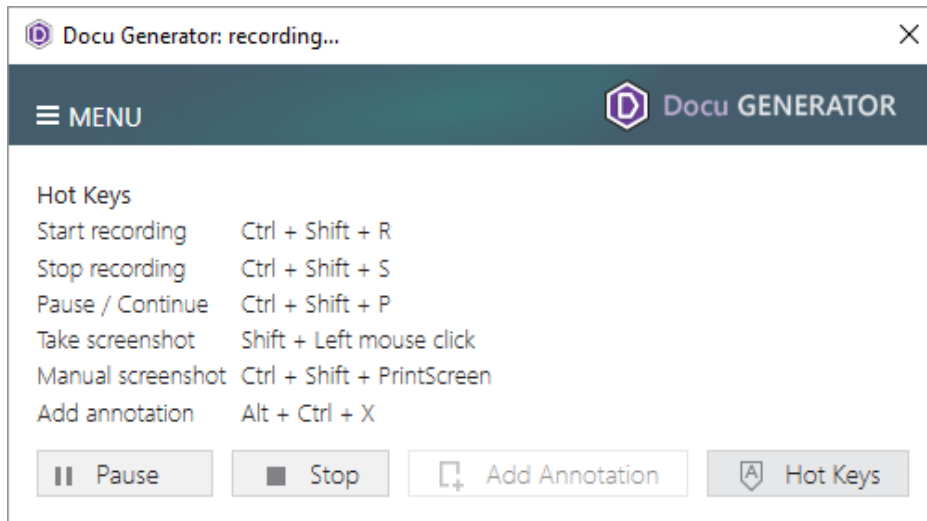
In order to launch Docu Generator with elevated permissions, press **Shift** and select **Run as administrator** from the context menu of the Docu Generator's shortcut.

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

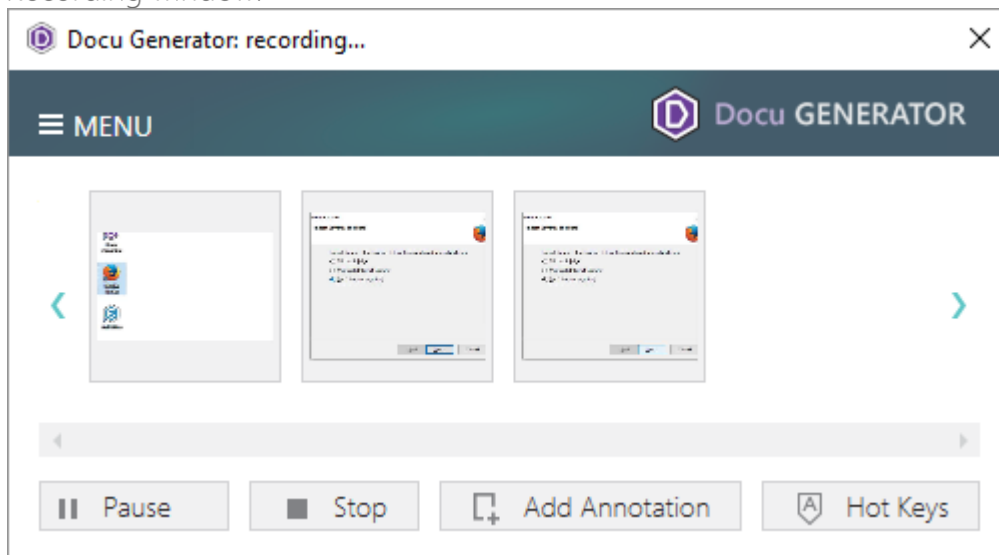


- Hover your mouse pointer on the **Hot Keys** button to check which of hot keys are used to take screenshots. Press the **Shift** key + **Left mouse click** to take a screenshot of an active window, dialog or screen area. Press **Ctrl + Shift + PrintScreen**, then click and drag the mouse pointer to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

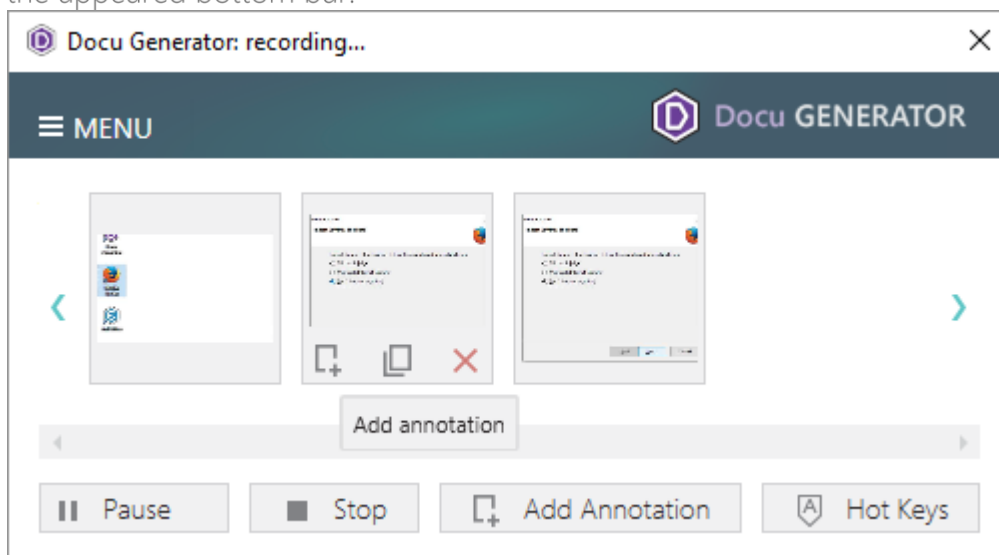
mouse button.



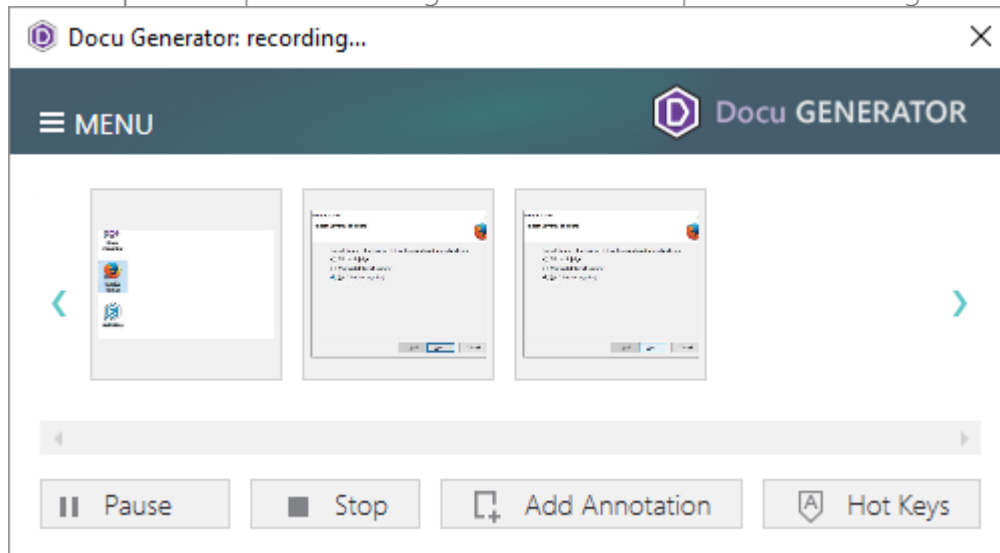
- Now, do the actions you want to record into the document. Launch executables, go through dialogs, select options and enter values just telling Docu Generator when to take another screenshot, as described above. A preview of each new screenshot immediately appears in the Recording window.



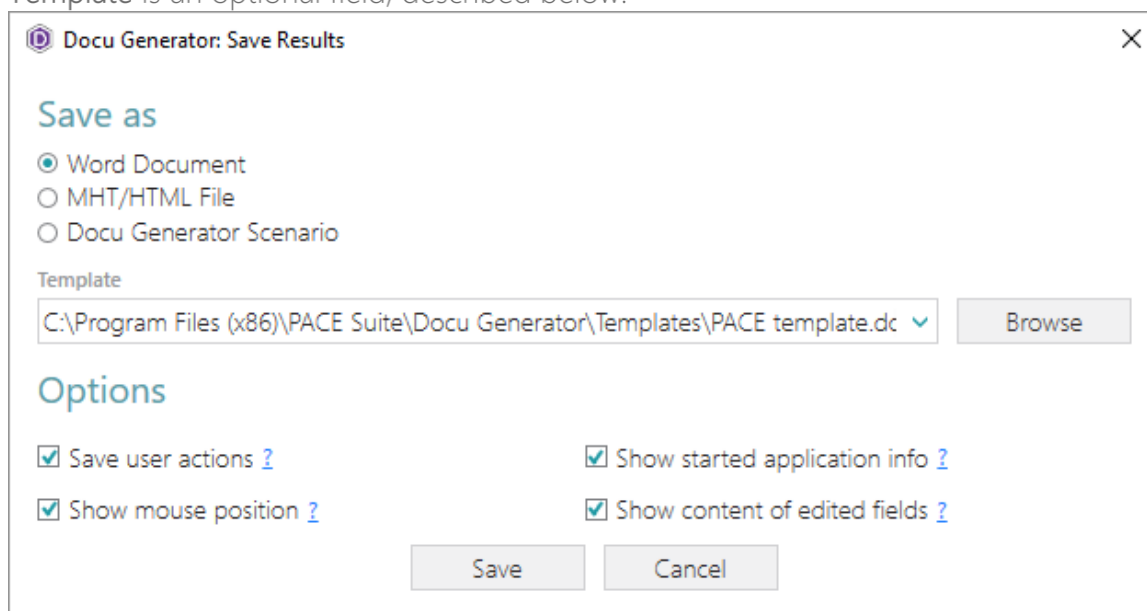
- In order to Add annotation, Copy to clipboard or Remove a screenshot, hover mouse pointer on a preview of the screenshot in the Recording window and select the respective function, in the appeared bottom bar.



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



- 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 the information about names of controls (which were clicked on) and names of the captured windows and dialog boxes to the document.
Show mouse position	This option adds information about mouse pointer position and highlights it with a red circle on screenshots to the document.
Show started application info	This option adds information about paths and command line arguments of the launched application to the document.
Show contents of edited fields	This option adds contents of input fields of the captured windows and dialog boxes to the document.
Template	<p>Docu Generator supports Microsoft Word (DOT/DOTX) and HTML/MHT templates to be used for document creation. To use a template, specify its file path in the "Save Results" window.</p> <p>In order to mark a position where screenshots and comments are to be placed to, add the following textual placeholder into a template:</p> <p>[SCR]</p> <p>You can specify placeholder [SCR] in the existing table in a template. In this case, the placeholder points to a cell where screenshots should start, while a column to the right of it will be populated with comments.</p> <p>If the placeholder is located outside a table, then a new table for screenshots and comments will be created. A Docu Generator-default table style will be used.</p>

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.

4 References

4.1 Contact

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

Support email | pace-support@infopulse.com

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

Educational videos | [YouTube channel](#)

4.2 Social Networks



itninja.com/pace



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



fb.com/pacesuite



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