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[Products \(/products/\)](/products/)[Pricing \(/services/\)](/services/)[Documentation \(/docs/\)](/docs/)[Blog \(/blog/\)](/blog/)[Contact Us \(/contact-us/\)](/contact-us/)

[Home \(/\)](#) / [WiX Toolset v3 Tutorial \(/docs/wix/v3/tutorial/\)](/docs/wix/v3/tutorial/) / Upgrades and Modularization

Upgrades and Modularization

At the end of the previous lesson, we have already learned how to do everything that can be thought of when it comes to installation packages, right? After all, even if Windows Installer doesn't provide an immediate solution, we just fire up our trusty old compiler and write it for ourselves, right?

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Because there are no questions we can't answer or problems we can't solve, you can unleash the full functionality of WiX without a doubt.

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In a way, yes. And in a way, no. We know how to assemble our original installation package but what shall we do when it comes to shipping an upgrade? Or a patch? Shall we ask the user to uninstall the previous version and reinstall the new one? And what happens to the settings our user has made during the use of the software? Shall they start everything from scratch again?

Of course not. So, let's see how Windows Installer can help solve such problems. It divides product changes into three categories:


- *Small updates* mean small changes to one or a few files where the change doesn't warrant changing the product version (major.minor.build) or product ID GUID.

Note that you always have to change the Package GUID when you create a new .msi file that is different from the previous ones in any respect. The Installer keeps track of your installed programs and finds them when the user wants to change or remove the installation using these GUIDs. Using the same GUID for different packages will confuse the Installer.


- *Minor upgrades* denote changes where the product version will already change. Modify the `Version` attribute of the `Product` tag. The product will remain the same, so you don't need to change the

 [HeatWave \(/docs/heatwave/\)](/docs/heatwave/)

 [HeatWave Build Tools \(/docs/heatwave-build-tools/\)](/docs/heatwave-build-tools/)

 [FG-WiX v3 Additional Features \(/docs/fg-wix/\)](/docs/fg-wix/)

 [WiX Toolset v4 Tutorial \(/docs/wix/tutorial/\)](/docs/wix/tutorial/)


 [WiX Toolset v3 Tutorial \(/docs/wix/v3/tutorial/\)](/docs/wix/v3/tutorial/)


▶ [Getting Started \(/docs/wix/v3/tutorial/getting-started/\)](/docs/wix/v3/tutorial/getting-started/)

▶ [User Interface \(/docs/wix/v3/tutorial/user-interface/\)](/docs/wix/v3/tutorial/user-interface/)

▶ [Events and Actions \(/docs/wix/v3/tutorial/events-and-actions/\)](/docs/wix/v3/tutorial/events-and-actions/)

▼ [Upgrades and Modularization \(/docs/wix/v3/tutorial/upgrades-and-modularization/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/)

 [Checking for Oldies \(/docs/wix/v3/tutorial/upgrades-and-modularization/checking-for-oldies/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/checking-for-oldies/)


 [Replacing Ourselves \(/docs/wix/v3/tutorial/upgrades-and-modularization/replacing-ourselves/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/replacing-ourselves/)


Product GUID but, of course, get a new Package GUID.


- *Major upgrades* denote significant changes like going from one full version to another. Change everything: Version attribute, Product and Package GUIDs.

There are cases when the Windows Installer forces you to use a major upgrade (in other words, to change the Product GUID). You have to when you expect the old and new versions to coexist on the user's computer. You have to when you change the name of the .msi file for any reason. You have to when you need to change any Component GUID in the package. You have to when a component has been removed. You have to when there are any changes in the feature hierarchy (child feature moving out of a parent, or a parent feature getting a new child).

So, major upgrades are a clear cut but the line between small updates and minor upgrades can be blurred. Think about it this way: if you'll ever need to differentiate between the current and the new versions in your future products, vote for the minor upgrade. In most of the usual cases, however, unless the product is rather large and downloading and deploying it again would be out of question, major upgrades are the safest because they provide the smoothest solution without the risks of the other two variants.

 [Patchwork \(/docs/wix/v3/tutorial/upgrades-and-modularization/patchwork/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/patchwork/)

 [Fragments \(/docs/wix/v3/tutorial/upgrades-and-modularization/fragments/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/fragments/)

 [Mergers \(/docs/wix/v3/tutorial/upgrades-and-modularization/mergers/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/mergers/)

▶ [Net and .NET \(/docs/wix/v3/tutorial/net-and-net/\)](/docs/wix/v3/tutorial/net-and-net/)

▶ [COM, Expression Syntax, Miscellanea \(/docs/wix/v3/tutorial/com-expression-syntax-miscellanea/\)](/docs/wix/v3/tutorial/com-expression-syntax-miscellanea/)

▶ [SQL \(/docs/wix/v3/tutorial/sql/\)](/docs/wix/v3/tutorial/sql/)

▶ [User Interface Revisited \(/docs/wix/v3/tutorial/user-interface-revisited/\)](/docs/wix/v3/tutorial/user-interface-revisited/)


▶ [Transforms \(/docs/wix/v3/tutorial/transforms/\)](/docs/wix/v3/tutorial/transforms/)


▶ [Standard Libraries \(/docs/wix/v3/tutorial/standard-libraries/\)](/docs/wix/v3/tutorial/standard-libraries/)


▶ [Localization \(/docs/wix/v3/tutorial/localization/\)](/docs/wix/v3/tutorial/localization/)

When you change GUIDs, keep track of the old ones. You will need them to use the sophisticated upgrade features of Windows Installer.

Pages in this Chapter

 [Checking for Oldies \(/docs/wix/v3/tutorial/upgrades-and-modularization/checking-for-oldies/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/checking-for-oldies/)

 [Replacing Ourselves \(/docs/wix/v3/tutorial/upgrades-and-modularization/replacing-ourselves/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/replacing-ourselves/)

 [Patchwork \(/docs/wix/v3/tutorial/upgrades-and-modularization/patchwork/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/patchwork/)

 [Fragments \(/docs/wix/v3/tutorial/upgrades-and-modularization/fragments/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/fragments/)

 [Mergers \(/docs/wix/v3/tutorial/upgrades-and-modularization/mergers/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/mergers/)

[◀ Upgrades and Modularization \(/docs/wix/v3/tutorial/upgrades-and-modularization/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/)

[up \(/docs/wix/v3/tutorial/\)](/docs/wix/v3/tutorial/)

[Checking for Oldies ▶ \(/docs/wix/v3/tutorial/upgrades-and-modularization/checking-for-oldies/\)](/docs/wix/v3/tutorial/upgrades-and-modularization/checking-for-oldies/)



PRODUCTS (/products/)

- › [HeatWave \(/docs/heatwave/\)](/docs/heatwave/)
- › [HeatWave Build Tools \(/products/heatwave-build-tools/\)](/products/heatwave-build-tools/)
- › [FireGiant WiX v3 \(/products/fg-wix/\)](/products/fg-wix/)

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- › [Support Programs \(/services/support-programs/\)](/services/support-programs/)
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- › [Phone Consultation \(/services/phone-consultation/\)](/services/phone-consultation/)
- › [Custom Development \(/services/custom-development/\)](/services/custom-development/)

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- › [HeatWave \(/docs/heatwave/\)](/docs/heatwave/)
- › [WiX v4 Tutorial \(/docs/wix/tutorial/\)](/docs/wix/tutorial/)
- › [WiX v3 Tutorial \(/docs/wix/v3/tutorial/\)](/docs/wix/v3/tutorial/)
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- › [About Us \(/about-firegiant/\)](/about-firegiant/)
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