FLEXERA

InstallShield 2019
Release Notes

Originally released April 2019; Updated to include R3 (December 2019) and R2 (August 2019)

Introduction

InstallShield is the industry standard for authoring high quality Windows Installer, InstallScript–based installations, MSIX package and Microsoft App-V packages.

InstallShield 2019 also offers new features, enhancements, and resolved issues that make it easy to use the latest technologies.

For the latest information about InstallShield 2019, including updates to these release notes, see the online version of the InstallShield 2019 release notes.

Changes in R3

InstallShield 2019 R3 includes the following changes:

- Standalone Build on a Docker Container
- Support for File Redirection Fixup

Standalone Build on a Docker Container

InstallShield Standalone Build (SAB) is now able to run on a Docker container.

Instructions on how to set up an InstallShield 2019 R3 Standalone Build on a Docker container or to download an already set up InstallShield 2019 R3 Standalone Build on Docker can be found in the Flexera Community Knowledge Base.

Support for File Redirection Fixup

In the previous release, InstallShield added support for Package Support Framework with file redirection and custom fixups for MSIX.

The InstallShield 2019 R3 release includes an enhancement that permits you to customize the file redirection fixup parameter executable name. This applies to executables that launch multiple processes.

In the previous release, the redirection fixup parameter executable was given the same name as the primary process. In InstallShield 2019 R3, a new field, **Executable**, has been added to the **Package Support Framework** area of the **Application Settings** view of an MSIX project type to enable you to specify the redirection fixup parameter executable name. By default, this field is populated with the primary process name.

Changes in R2

InstallShield 2019 R2 includes the following changes:

- MSIX - Package Support Framework

MSIX - Package Support Framework

The Package Support Framework is an open source kit that helps you apply fixes to your existing win32 application when you do not have access to the source code, so that it can run in an MSIX container.

It helps your application follow the best practices of the modern runtime environment. It contains an executable, a runtime manager DLL, and a set of runtime fixes to a package.
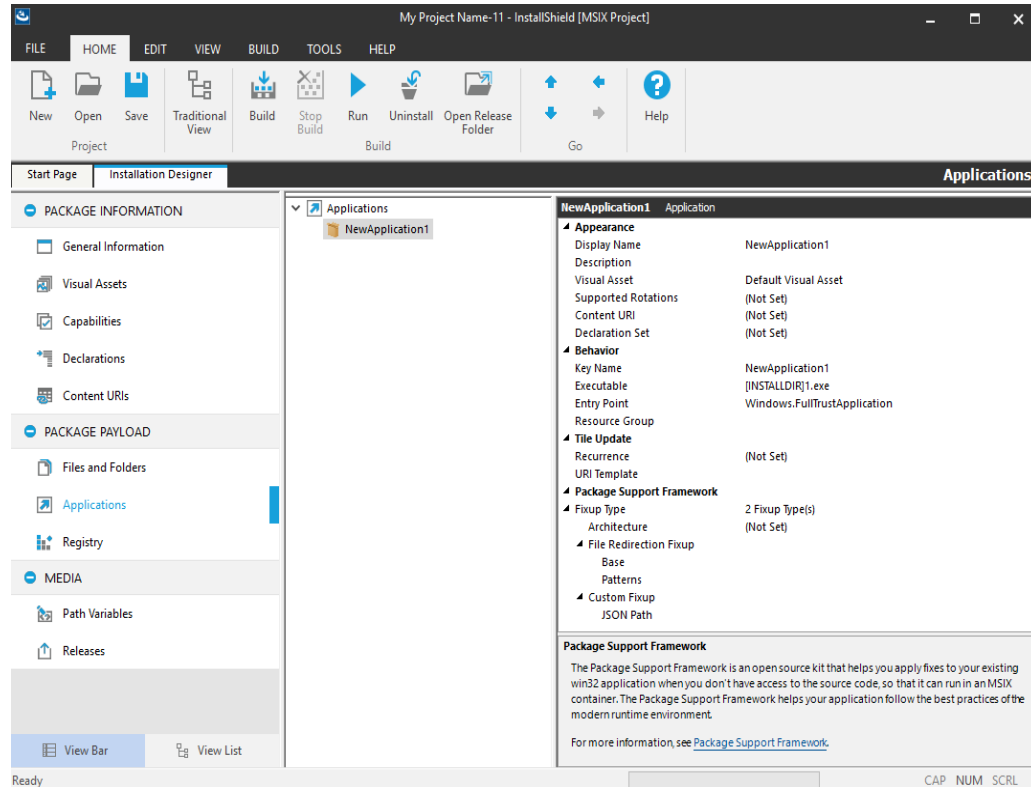
When the users start your application, the Package Support Framework launcher is the first executable that runs. It reads your configuration file and injects the runtime fixes and the runtime manager DLL into the application process. The runtime manager applies the fix when it's needed by the application to run inside of an MSIX container.

In InstallShield 2019 R2, you can now use the Package Support Framework that applies runtime fixes such as the File Redirection Fixup and Custom Fixup in MSIX.

- **File Redirection Fixup**—You can use the File Redirection Fixup to redirect attempts to write or read data in a directory that isn't accessible from an application that runs in an MSIX container.

- **Custom Fixup**—You can use the Custom Redirection Fixup that will solve application compatibility issues with a configuration file that specifies the fixes that you want to apply to your application.

Resolved Issues in R3

For descriptions of resolved issues in InstallShield 2019 R3, refer to InstallShield 2019 R3.

Resolved Issues in R2

For descriptions of resolved issues in InstallShield 2019 R2, refer to InstallShield 2019 R2.

New Features

InstallShield 2019 includes the following new features:

- Use MSIX Project Type to Build an MSIX Package
- MSI to MSIX Conversion Wizard
- Build MSIX Validation Suite for Basic MSI
- Add MSIX in Suite
- New Project Wizard

Use MSIX Project Type to Build an MSIX Package

MSIX is the Windows app package format that provides a modern packaging experience to all Windows apps. The MSIX package format preserves the functionality of existing app packages and/or install files in addition to enabling new, modern packaging and deployment features to Win32, WPF, and WinForm apps.

In InstallShield 2019, you can now use MSIX project type to build MSIX packages. It contains windows applications for side-loading or distribution via the Windows Store.

- Package Information
- Package Payload
- Media

Package Information

Now you can describe and identify your project by providing:

- General Information view to specify details such as the name and format of the project file.
- MSIX VisualAssets explorer to offer an integrated, visual method for describing visual aspects of the MSIX apps.
- Capabilities view that requires to be enabled in app's package manifest to access certain API or resources like pictures, music, or devices such as the camera or the microphone.
- Declarations view that provides a visual tool for creating and managing the application, package level declarations and allows to configure their properties.
- Content URIs view to specify the URIs that can use window.external.notify to send a Script-Notify event to the app.

Package Payload

Now you can specify the files that designs your MSIX application:

- Files and Folders view lets you to add files to your InstallShield project. You can organize these files into folders on the target system.

- Applications view offers an integrated, visual method for designing windows app properties that comprises part of or all of the functionality delivered in the package.

- Registry view enables you to define registry keys and values to be created by your installation.

Media

Now you can customize the files and folders that you will use to distribute your installation:

- Path Variables view makes your installation easily portable between development systems through the use of variables.

- Releases view provides a visual tool for each product in your project.

MSI to MSIX Conversion Wizard

The MSI to MSIX Conversion Wizard helps you convert existing Windows Installer files (.msi files) to MSIX package through Basic MSI project.
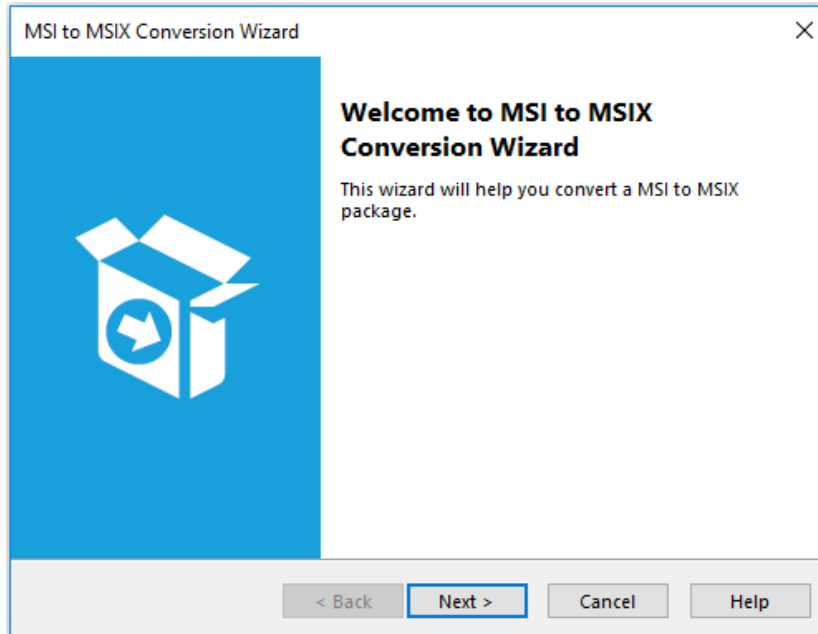
Build MSIX Validation Suite for Basic MSI

You can now identify the existing InstallShield projects that require changes to meet the Microsoft MSIX standards. It also provides insights and steps needed to convert MSI project elements to work in MSIX.

Now in InstallShield, you can include a set of validators called the InstallShield MSIX Suitability Suite.

The InstallShield MSIX Suitability validators in this suite scan an.msi package for signs of items that are unsuitable for the MSIX package (.msix) format.

Add MSIX in Suite

In InstallShield 2019, you can add an MSIX package in Suite and install along with other deployment package types.

New Project Wizard

The New Project Wizard helps you to select different project types with ease.
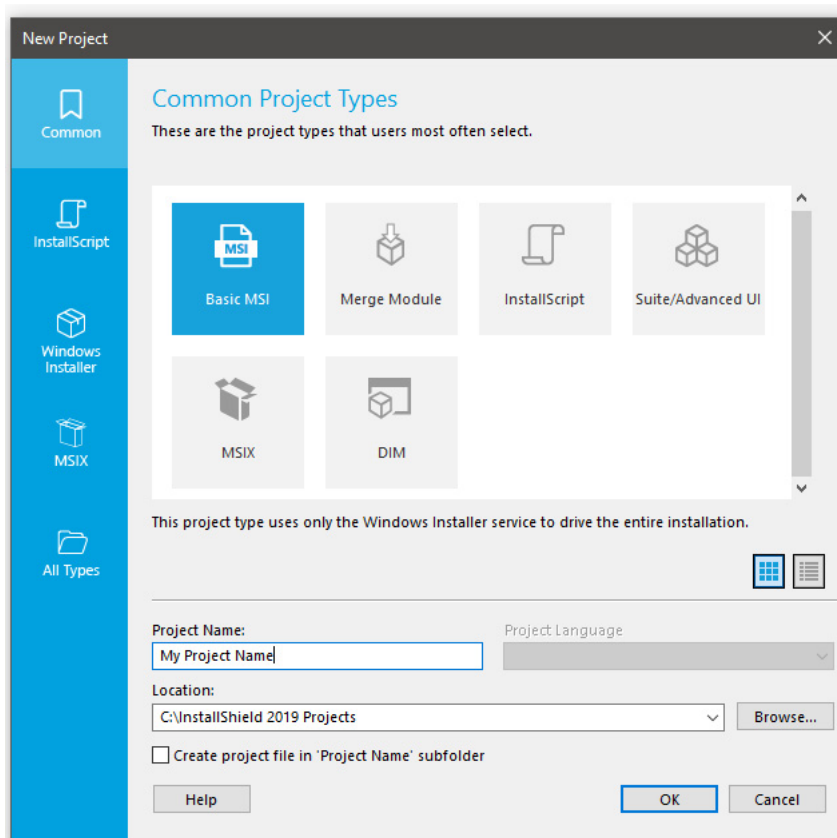
There are different Project Types in the New Project Wizard that are given below:

Project Types	Description
Common	Displays some of the most commonly used project types.
InstallScript	Displays all of the project types that use the InstallShield setup engine, including the InstallScript project.
Windows Installer	Includes projects that use the Microsoft Windows setup engine, including the Basic MSI project.
MSIX	Includes projects that use Windows app package format that provides a modern packaging experience of the Windows apps.
All Types	Displays all of the project types available in InstallShield. It also includes any project templates that you previously saved, as well as any templates that are available in your repository.

Enhancements

InstallShield 2019 releases include the following enhancements:

- InstallShield 2019 R3
- InstallShield 2019 R2
- InstallShield 2019

InstallShield 2019 R3

InstallShield 2019 R3 includes the following enhancements:

- Use OLE DB Driver for SQL Server
- Choose SQL Driver for Database Server

Use OLE DB Driver for SQL Server

The previous Microsoft OLE DB Provider for SQL Server (SQLOLEDB) and SQL Server Native Client OLE DB provider (SQLNCLI) remains deprecated.

Now, Microsoft has released a new OLE DB provider called Microsoft OLE DB Driver for SQL Server (MSOLEDBSQL).

InstallShield 2019 R3 now uses Microsoft OLE DB Driver for SQL Server (MSOLEDBSQL) to support TLS 1.2 only environments.

Advanced Note • *Microsoft OLE DB Driver for SQL Server (MSOLEDBSQL) is included as a prerequisite in InstallShield 2019 R3.*

Choose SQL Driver for Database Server

In InstallShield 2019 R3, you can now choose a driver from a list of drivers for your database server.

By default, the Microsoft OLE DB Driver for SQL Server (MSOLEDBSQL) will appear on the Requirements tab for your new SQL connection.

InstallShield 2019 R2

InstallShield 2019 R2 includes the following enhancements:

- Delay between Signing

- IsCmdBld.exe Parameter to Specify Digital Certificate Password

- Allow Suite Project to use Relative Path to link to ISM Package

- Update SQL 2012 Native Client Prerequisites

- Add Windows Server 2019 in PRQ Conditions

Delay between Signing

InstallShield 2019 R2 supports adding a delay between the successive digital signing, this requires only if the timestamp server fails handle the successive signing requests.

Required to specify the <DelayBetweenSigning default="1500"/> node in the settings.xml, under <DevStudio/Build> node in Settings.xml in milliseconds.

Find the Settings.xml file that is installed with InstallShield. Settings.xml is installed in one of the following locations, depending on which language version of InstallShield you are using:

- English—InstallShield Program Files Folder\Support\0409

- Japanese—InstallShield Program Files Folder\Support\0411

IsCmdBld.exe Parameter to Specify Digital Certificate Password

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Project • *This information applies to the following project types:*

- *Basis MSI*
- *InstallScript*
- *InstallScript MSI*
- *InstallScript Object*
- *Merge Module*
- *Suite/Advanced UI*
- *Advanced UI*

In InstallShield 2019 R2, there is a new parameter (cert_password) that specifies the digital certificate password, this is an optional parameter in the command line build (IsCmdBld.exe).

If it is not specified, the password configured in the project is used to sign the files.

Allow Suite Project to use Relative Path to link to ISM Package

Project • This information applies to the following project type:

- *Suite/Advanced UI*

In InstallShield 2019 R2, now when trying to build a modified project, you will be able to link an ISM package using a relative path.

Update SQL 2012 Native Client Prerequisites

Project • This information applies to the following project types:

- *Basis MSI*
- *InstallScript*
- *InstallScript MSI*

In InstallShield 2019 R2, the Microsoft SQL Server 2012 Native Client prerequisites (x86 and x64) which is now included for the latest versions of 2012 Native Client.

Add Windows Server 2019 in PRQ Conditions

Project • This information applies to the following project types:

- *Basis MSI*
- *InstallScript*
- *InstallScirpt MSI*

In InstallShield 2019 R2, you can set the Prerequisite Condition to run on a specified platform for Windows Server 2019. You can set the appropriate PRQ Conditions in the Prerequisite Editor by selecting or deselecting the option.

InstallShield 2019

InstallShield 2019 includes the following enhancements:

- View Details of a Selected Certificate
- Add Windows Server 2019 for Operating System Requirement
- Add Predefined Install Conditions
- Update TimeStamp Server Selection for Digital Signatures
- Support for Suite Projects using MSBuild
- Customize Debug Log File Name

- Customize Custom Return Code

- Customize Setup File Name

- Support for InstallShield Standalone Build

View Details of a Selected Certificate

Project • *This information applies to the following project types:*

- *Basis MSI*
- *InstallScript*
- *InstallScript MSI*
- *InstallScript Object*
- *Merge Module*
- *Suite/Advanced UI*
- *QuickPatch*
- *MSIX*

In InstallShield 2019, the details of the certificate like the general information of the certificate, security details and certification path is listed on the View Details option in the Certificate Selection dialog box.

Add Windows Server 2019 for Operating System Requirement

Project • *This information applies to the following project types:*

- *Basis MSI*
- *InstallScript MSI*

In InstallShield 2019, you can add an option for Windows Server 2019 in the operating system requirements section. You can set the appropriate Install Condition in the project by selecting or deselecting the option.

Add Predefined Install Conditions

Project • This information applies to the following project types:

- *Basis MSI*
- *InstallScript MSI*

InstallShield has new predefined system search:

- Microsoft .NET Framework 4.6.2

If your installation requires the above, you can use the System Search view or the Installation Requirements page in the Project Assistant to add this system search to your project. When end users launch your installation, Windows Installer checks the target system to see if the requirements are met; if they are not met, the installation displays the error message that is defined for the system search.

Update TimeStamp Server Selection for Digital Signatures

Project • This information applies to the following project types:

- *Advanced UI*
- *Basis MSI*
- *InstallScript*
- *InstallScript MSI*
- *InstallScript Object*
- *Merge Module*
- *Suite/Advanced UI*

In InstallShield 2019, if you select

- SHA-1 to sign the package, the package will get time timestamped using:

  ```
  <DigitalSignature Timestamp="http://timestamp.verisign.com/scripts/timstamp.dll"/>
  ```

- SHA-256 to sign the package, the package will get time timestamped using:

  ```
  <DigitalSignature TimestampRFC3161="http://sha256timestamp.ws.symantec.com/sha256/
  timestamp"/>
  ```

Support for Suite Projects using MSBuild

Project • This information applies to the following project types:

- *Suite/Advanced UI*

InstallShield supports the Microsoft Build engine (MSBuild) included with the .NET Framework. MSBuild support enables you to build Visual Studio solutions with InstallShield projects where Visual Studio is not installed in the build lab environments.

In InstallShield 2019, you can now build suite projects (.sln) which are created in Visual Studio using MSBuild.

Customize Debug Log File Name

Project • *This information applies to the following project types:*

- *Suite/Advanced UI*

An option, **Always Create Debug Log**, had been added to the **Setup.exe** tab of the **Releases** view for Advanced UI and Suite/Advanced UI projects.

Now in InstallShield 2019, you can specify the debug log file name which will be generated.

Customize Custom Return Code

Project • *This information applies to the following project types:*

- *Basic MSI*
- *InstallScript MSI*
- *InstallScript*

In InstallShield 2019, you can now override the return code of setup.exe with your own custom values during the runtime.

Customize Setup File Name

Project • *This information applies to the following project types:*

- *Basic MSI*
- *InstallScript MSI*
- *InstallScript*
- *Suite/Advanced UI*

In InstallShield 2019, you have the ability to customize the original file name property for setup.exe.

Support for InstallShield Standalone Build

Now when you install the InstallShield Standalone build, the Automation Interface feature is set to default selection.

This allows you to install the Automation Interface feature without selecting manually.
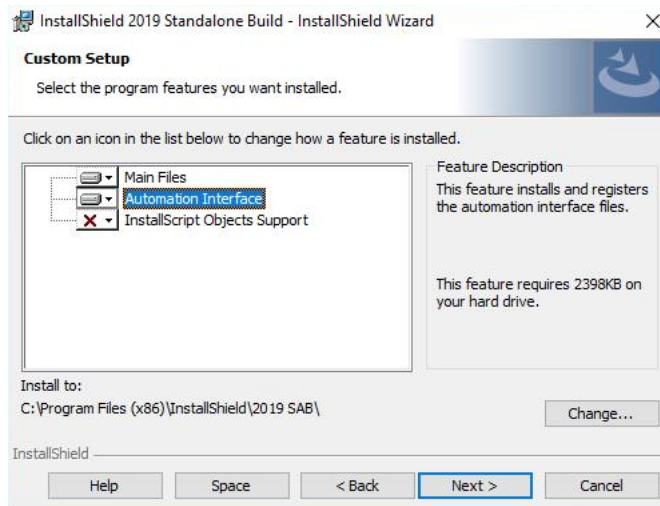
Additional Prerequisites Included

InstallShield 2019 includes the following additional prerequisites:

- Microsoft .Net Core 2.1 Runtime Prerequisite

Microsoft .Net Core 2.1 Runtime Prerequisite

InstallShield now includes the prerequisites for Microsoft .Net Core 2.1 Runtime in the redistributables view.

Note • This change was tracked in issue IOJ-1896156.

Important Information

Note the following important information regarding the InstallShield 2019 release:

- Evaluating InstallShield
- Obtaining the Installations for InstallShield, InstallShield Add-Ons, and the Redistributable Files
- Installing More than One Edition of InstallShield
- Installing More than One Version of InstallShield
- Removal of .NET/J# Tab from the Releases View
- Current Directory Removed from DLL Search Path to Safeguard Against DLL Preloading Attacks

Concurrent License Users Must Update the FlexNet Licensing Server Software

If you are using a concurrent license of InstallShield, you must update the version of the FlexNet Licensing Server software on the licensing server before you can start using InstallShield 2019.

The version of the FlexNet Licensing Server software that shipped with previous versions of InstallShield cannot manage licenses of InstallShield 2019. InstallShield 2019 will not check out licenses from older version of the license server even when those licenses are available.

Note • *The new version of the FlexNet Licensing Server software can manage licenses of both InstallShield 2019 and previous releases of InstallShield.*

You can download the installer for the new FlexNet Licensing Server software from the Flexera Product and License Center.

For instructions on installing the FlexNet Licensing Server software, see Setting Up Your License Server for Concurrent Licenses of InstallShield 2016 and Later.

Evaluating InstallShield

If you have not purchased a license for InstallShield, you can install it and use it for a limited number of days without activating it or connecting it to a license server. When you use InstallShield before activating it or connecting it to a license server, it operates in evaluation mode, and some of its functionality is not available. For details, see Functionality Notes for the Evaluation Version of InstallShield. Note that the evaluation limitations are removed when you activate InstallShield or when you connect it to a license server and check out a license for it.

Obtaining the Installations for InstallShield, InstallShield Add-Ons, and the Redistributable Files

The following installations are available for download from the Flexera Software Product and License Center as documented in the InstallShield download and licensing instructions:

- InstallShield

- Redistributable files (for example, InstallShield prerequisites and InstallScript objects)

- Add-ons (if you are entitled to them) such as the Standalone Build and the InstallShield MSI Tools

- FlexNet Licensing Server software (if you purchased concurrent licenses and you need to set up your organization's license server)

- Skin Customization Kit

- InstallScript Object templates

- InstallShield service packs (if available)

Note • As of InstallShield 2019, the Collaboration Edition (DIM Editor) is no longer available.

Installing More than One Edition of InstallShield

Only one edition of InstallShield 2019—Premier, Professional, or Express—can be installed on a system at a time. In addition, the InstallShield 2019 DIM Editor cannot be installed on the same machine with any edition of InstallShield 2019.

Microsoft Visual Studio can be integrated with only one version of InstallShield at a time. The last version of InstallShield that is installed or repaired on a system is the one that is used for Visual Studio integration.

Installing More than One Version of InstallShield

InstallShield 2019 can coexist on the same machine with other versions of InstallShield.

The InstallShield 2019 Standalone Build can coexist on the same machine with other versions of the Standalone Build. In most cases, the Standalone Build is not installed on the same machine where InstallShield is installed. If you do install both on the same machine and you want to use the automation interface, review the *Installing the Standalone Build and InstallShield on the Same Machine* topic in the InstallShield Help Library to learn about special registration and uninstallation considerations.

Removal of .NET/J# Tab from the Releases View

Project • This information applies to the following project types:

- *Basic MSI*
- *InstallScript MSI*

The **.NET./J#** tab in the **Releases** view of the Installation Designer was originally provided to support .NET 1.1/2.0 and J# redistributables. Those technologies have become obsolete and no longer supported by Microsoft. Therefore, in InstallShield 2019, the .**NET/J#** tab of the **Releases** view has been removed (as well as the associated .NET 1.1/2.0 Core Language and .NET 1.1/2.0 Language Packs dialog boxes).

Current Directory Removed from DLL Search Path to Safeguard Against DLL Preloading Attacks

To safeguard installations against DLL preloading attacks, InstallShield has removed the current directory from the standard DLL search path by calling the `SetDllDirectory` Windows API with an empty string (`""`).

If a DLL links implicitly to the other DLLs, or loads them dynamically using `LoadLibrary()` without specifying a fully qualified path name, the `UseDLL()` InstallScript function cannot load the dependencies from the current working directory.

You can work around this issue by prototyping `SetDllDirectoryW` (prototype number `kernel32.SetDllDirectoryW(wstring; )` and call it with `SUPPORTDIR` to get the support folder to be in the DLL load search path.

In InstallShield 2019, the following changes have been made:

- The `DLL_DIRECTORY_SUPPORTDIR` constant was added to the **Enable** function so that customers can explicitly opt-in to using `SUPPORTDIR` as a DLL directory.

- The `DLL_DIRECTORY_SUPPORTDIR` constant was added to the **Disable** function so that customers can explicitly opt-out to using `SUPPORTDIR` as a DLL directory.

- The `SetDllDirectory (szPathName)` wrapper function was added so that customers can explicitly opt-in to using any directory as a DLL directory. If the parameter is an empty string (`""`), the call removes the current directory from the default DLL search order.

Note • This change was tracked in issue IOJ-1839017.

Project Upgrade Alerts

The following information describes possible upgrade issues that may occur when you upgrade projects that were created with InstallShield 2016 and earlier to InstallShield 2019. It also alerts you to possible changes in behavior that you may notice between new InstallShield 2019 projects and projects that are upgraded from InstallShield 2016 or earlier to InstallShield 2019.

- General Information about Upgrading Projects that Were Created in Earlier Versions of InstallShield

- Changes to the List of Supported Versions of Windows for Target Systems

- Localized String Considerations

General Information about Upgrading Projects that Were Created in Earlier Versions of InstallShield

InstallShield creates a backup copy of the project with a file extension such as .777 (for an .ism project) or .2016 (for an .issuite project) before converting it. Delete the .777 or .2016 part from the original project's file name if you want to reopen the project in the earlier version of InstallShield. Note that you cannot open InstallShield 2019 projects in earlier versions of InstallShield.

You can upgrade projects that were created with the following versions of InstallShield to InstallShield 2019: InstallShield 2016 and earlier, InstallShield 12 and earlier, InstallShield DevStudio, InstallShield Professional 7 and earlier, and InstallShield Developer 8 and earlier. Note that projects that were created with InstallShield MultiPlatform or InstallShield Universal cannot be upgraded to InstallShield 2019.

Changes to the List of Supported Versions of Windows for Target Systems

For all project types except for Suites, Windows XP SP3 and Windows Server 2003 SP2 are the minimum versions of Windows that are required for target systems that run the installations that are created in InstallShield. For suites (Advanced UI, and Suite/Advanced UI project types), Windows Vista and Windows Server 2008 are the minimum versions of Windows that are required for target systems.

Localized String Considerations

Changes to the handing and detection of localized strings were introduced starting in InstallShield 2016. For example, localized string content that includes square brackets around invalid characters can now trigger a build time warning or error. Accordingly, the following new warning and errors might occur when you are working with your installation.

Error or Warning Number	Message	Troubleshooting Information
-7355	The %4 value for string %2 does not meet validation criteria for table %1 column %3.	This warning occurs if a localized string value does not meet validation criteria for a column in the String Editor table. To resolve this warning, update the flagged value in the String Editor.
-7354	The %4 value for string %2 does not contain a legitimate value for table %1 column %3.	This error occurs if a localized string value does not contain a legitimate value in the named column of the String Editor table. To resolve this error, update the flagged value in the String Editor.

Resolved Issues

This section lists the customer issues that were resolved in the following versions of InstallShield:

- InstallShield 2019 R3

- InstallShield 2019 R2

- InstallShield 2019

InstallShield 2019 R3

The following issues have been resolved in InstallShield 2019 R3.

Issue Number	Issue Summary
IOC-000046402	Previously, you could not configure Patch Design patches through the automation interface; you could only build pre-created patches through automation. In the InstallShield 2019 R3 release, you can now configure Patch Design patches through the automation interface.
IOJ-1925598	Prior to this release, the digitally signing installer with SHA-256 digital certificate resulted in the installer digitally signed with SHA-256 digest algorithm but with SHA-1 timestamp. This issue is resolved in this release.
IOJ-1994524	Previously, InstallShield was unable to set DWORD value to a maximum value (0xFFFFFFFF) using InstallScript function. This issue is resolved in this release.
IOJ-2068941	Previously, a suite project with ISM package upgraded to a newer version of InstallShield lost the value of Product Configuration and crashed when editing the Product Configuration. This issue is resolved in this release.
IOJ-2068989	Previously in InstallShield 2019 R2, a suite project with ISM package containing Product Configurations and Releases lost the value of Product Configuration and Releases. This issue is resolved in this release.
IOJ-2070891	Previously, when a Suite project used multiple features (each associated with a different ISM package) and having unique release flags, InstallShield ignored the release flags associated with separate releases containing to build all ISM projects, thus utilizing more resources than necessary. This issue is resolved in this release.
IOJ-2071428	Previously, there was an error (1152: Error Extracting setup.INI to the temporary location) which was being displayed while launching a Basic MSI Compressed setup from a mounted ISO. This issue is resolved in this release.
IOJ-2072503	When building an InstallScript project in InstallShield 2018 SP1, if you entered a value in the **Media > Releases > Setup.exe tab > Single.exe File Name** field, such as `newname.exe`, an .exe with that name would be generated in the following location instead of the correct value of `setup.exe`: `C:\Program Files (x86)\InstallShield Installation Information\<Product Code>` This issue has been resolved in this release.
IOJ-2073877	Previously in InstallShield 2019 R2, the built MSIX package had default icons instead of custom icons. This issue is resolved in this release.

InstallShield 2019 R2

The following issues have been resolved in InstallShield 2019 R2.

Issue Number	Issue Summary
IOJ-1927611	A release with "Install from the Web" selected previously failed to run the setup when it was hosted on a server. This issue is resolved in this release.
IOJ-1927088	Previously while trying to add a Merge Module object to the 'Default Feature' in InstallScript project, an error was displayed. This has now been resolved.
IOJ-1925433	The Control Properties information for a Dialog was incompletely displayed due to a refresh issue. With this release, the Control Properties information is fully displayed without any refresh issues.
IOJ-1918371	The Japanese characters in a .config file gets altered to a different language when installed on Japanese OS. This has been resolved to retain the Japanese characters as is.
IOJ-1621607 IOJ-1624889	When using the skinned dialogs in InstallScript MSI, the status bar text control on the SetupStatus dialog was overwritten by the next text string. This has been fixed to make the text readable and appear one after the other instead of being overwritten.
IOJ-1662015	InstallShield crashed when adding custom action in the transform project. This issue was specific to the older MSI files (built using Windows Installer 4.0 and earlier) that did not have ExtendedType column for CustomAction Table schema which is now handled in this release.
IOJ-1893776	IsCmdBld.exe of InstallShield (InstallShield 2016 or older) did not set the ERRORLEVEL to the appropriate error code when attempting to build a project created with the newer version of InstallShield (InstallShield 2018 or later). This issue is resolved by setting the ERRORLEVEL to a non-zero value to indicate an error.
IOJ-1902456	The build was unable to extract the COM information from the 64 bit executable. This issue is resolved in this release.
IOJ-1908220	While adding a package to the Suite project, the Setup.exe property name was displaying "ID_STRING" as the value on the Details tab of the Properties dialog box instead of displaying the actual Product Name. This issue is resolved by displaying the value of the "Product Name".
IOJ-1920140	The value of Yes for "Create MSI Logs" in the "Logging Options for Windows Installer 4.0 and Later" dialog box was changing to Custom when the "Logging Options for Windows Installer 4.0 and Later" dialog box was opened again. This issue is resolved by retaining the selected value.

Issue Number	Issue Summary
IOJ-1842645	With databases that has tables of larger number of rows, it was time consuming to click on a specific table in the Direct Editor view. This issue is resolved by providing an option in Tools>Options>Preferences>Direct Editor>Check for broken reference constraints. By default, this option is checked. It can be unchecked by improving the direct editor performance as a priority.
IOJ-1923651	The Installer was digitally signed with SHA-256 digital certificate but the timestamp incorrectly indicated SHA-1. Now this issue is resolved by indicating SHA-256 timestamp.
IOJ-1921509	The Suite PostBuild event was not getting set through the automation layer. This issue is resolved in this release.
IOJ-1885348	ISSelfRegisterFiles action freezes while attempting to register the DLL 'DScript.dll'. This issue is resolved in this release.
IOJ-1930510	The build fails when setting a component to 64bit in the ARM Template summary. Now, the build installs successfully without any error.
IOJ-1990952	The string IDS__DestinationFolder_InstallTo does not display as expected during runtime using Spanish language. This issue is resolved by adding a space between words "Installar" and "My Project Name-1" on Destination dialog during the runtime.
IOJ-1918894	PendingFileRenameOperations was referenced as 'Key' instead of 'Value' in setup.exe debug log. This issue has been resolved by changing the reference to 'Value'.

InstallShield 2019

The following issues have been resolved in InstallShield 2019.

Issue Number	Issue Summary
IOJ-1900586	While running a binary scan for the InstallShield generated executables, all the Basic MSI projects reported ZLib 1.2.3 version vulnerability. This issue is resolved in this release.
IOJ-1920450	An old version of darice.cub was used in InstallShield. So when running a full MSI validation on a sample basic MSI project, the MSIConfigureServices action was generating an error - ICE27. This issue is resolved by updating with the latest version of darice.cub.
IOJ-1892604	Previously, the Dynamic File Links were not showing the files in the Component view. This issue is resolved in this release.
IOJ-1895875	Previously, the Redistributable Downloader List had an outdated information. This issue is resolved by updating the Redistributable Downloader List with the latest redistributables.

Issue Number	Issue Summary
IOJ-1894189	When adding 'German: Deutsch language as the setup language, the translation for string entry "IDS IsVerifyReadyDlg_ModifyReady" had an incorrect entry. This issue is resolved by correcting the text in the string.
IOJ-1888066	While building a suite project in InstallShield, it used to change the modify date of the included files in the 'Extract from Setup.exe' option. This issue is resolved in this release.
IOJ-1907614	Previously, the installer used to install .NET Framework 4.6.2 even though it was already pre-installed on Windows Server 2016. This issue is resolved by adding a prerequisite install condition which will prevent installing .NET Framework 4.6.2 on Windows Server 2016.
IOJ-1883550	Previously, when closing a Basic MSI project, an error occurred - "No database is open. Illegal operation" while selecting a certain XML file change elements in the system configuration. This issue is resolved without producing any error for this release.
IOJ-1888425 **IOJ-1884771**	Installscript built setup executable displayed an error (5001) which has a prerequisite that requires to reboot the machine. This issue is resolved in this release.
IOJ-1910908	The license server installer (FlexNetLicensingServer11_14_0_1.exe) did not bundle the required prerequisites and therefore failed to install in an offline environment. This issue is resolved in this release.
IOJ-1911911	In the Redistributables view, only the first Prerequisite used to get updated in the Details page but not the subsequent Prerequisites. This issue is resolved by viewing the updated "Details Information" of all the prerequisites.
IOJ-1907284	Previously, InstallShield used to crash after browsing for a merge module that had dependencies. This issue is resolved in this release.

System Requirements

This section contains the minimum requirements for systems that run InstallShield (the authoring environment), as well as for target systems that run the installations created with InstallShield (the run-time environment).

For Systems Running InstallShield

InstallShield runs on the latest versions of these operating systems, fully updated with the most recent patches and service packs.

Item	Description
Processor	Pentium III-class PC (500 MHz or higher recommended)

Item	Description
RAM	256 MB of RAM (512 MB preferred)
Hard Disk	750 MB free space
Display	Designed for XGA resolution at 1024 × 768 or higher
Operating System	- Windows Vista - Windows Server 2008 - Windows 7 - Windows Server 2008 R2 - Windows 8 - Windows Server 2012 - Windows 8.1 - Windows Server 2012 R2 - Windows 10 - Windows Server 2016 - Windows Server 2019
Privileges	Administrative privileges on the system
Mouse	Microsoft IntelliMouse or other compatible pointing device
Optional Integration with Visual Studio	The following versions of Microsoft Visual Studio can be integrated with InstallShield Premier or Professional Editions: - Visual Studio 2008 - Visual Studio 2010 - Visual Studio 2012 - Visual Studio 2013 - Visual Studio 2015 - Visual Studio 2017 - Visual Studio 2019 The following editions of these versions of Visual Studio can be integrated with InstallShield Premier or Professional Editions: - Professional - Premium - Ultimate

For Target Systems

For all project types except for Suites (Advanced UI, and Suite/Advanced UI project types), Windows XP SP3 and Windows Server 2003 SP2 are the minimum versions of Windows that are required for target systems that run the installations that are created in InstallShield. For Suites, Windows Vista and Windows Server 2008 are the minimum versions of Windows that are required for target systems.

Target systems must meet the following minimum operating system requirement:

- Windows XP SP3
- Windows Server 2003 SP2
- Windows Vista
- Windows Server 2008
- Windows 7
- Windows Server 2008 R2
- Windows 8
- Windows Server 2012
- Windows 8.1
- Windows Server 2012 R2
- Windows 10
- Windows Server 2016
- Windows Server 2019

Target systems must also support the SSE2 instruction set.

Known Issues

The list of known issues in InstallShield 2019 is given below:

Error Message	Description
Upgrade of VC++ 2015 to 2017 results in deletion of '14.0' key	This error occurs while installing VC++ 2017 on top of VC++ 2015 which results in the registry key typically used for detecting the installation being removed.

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