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Troubleshooting packaging, deployment, and query of Windows apps

Article • 09/11/2021 • 11 contributors   ⟲ Feedback

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Use these suggestions to troubleshoot problems you experience when packaging, deploying, or querying a Windows app package (.msix/.appx) as a developer.

> ⓘ **Note**
>
> This article is intended for developers. If you are not a developer and you are looking for help with a Windows app installation error, see **Windows support** ⧉.

Get diagnostic information

When an API fails, it returns an error code that describes the problem. If the error code doesn't provide enough information, you find more diagnostic information in the detailed event logs.

To access the packaging and deployment event logs by using **Event Viewer**, follow these steps:

1. Perform one of the following steps:

   - Click **Start** on the Windows menu, type **Event Viewer**, and **press Enter**.
   - Run **eventvwr.msc**.

2. In the left page, expand **Event Viewer (Local)** > **Applications and Services Logs** > **Microsoft** > **Windows**.

3. Check for available logs under these categories:

- **AppxPackagingOM** > **Microsoft-Windows-AppxPackaging/Operational**
- **AppXDeployment-Server** > **Microsoft-Windows-AppXDeploymentServer/Operational**

Start by looking at the logs under **AppXDeployment-Server**. If the error was caused by **0x80073CF0** or **ERROR_INSTALL_OPEN_PACKAGE_FAILED**, additional details may be present in the **AppxpackagingOM** logs.

You can also use the Get-AppxLog command in PowerShell to get the first few logged events. The following example displays the logs associated with the most recent deployment operation.

```
Get-Appxlog
```

The following example displays the logs associated with the most recent deployment operation in an interactive table in a separate window.

```
Get-Appxlog | Out-GridView
```

Common error codes

This table lists some of the most common error codes. If you need further help with one of these errors, or if you're encountering an error code not in this list, see additional help options.

⌖ Expand table

Error code	Value	Description and possible causes
E_FILENOTFOUND	0x80070002	File or path is not found. This can occur during a COM typelib validation requires that the path for the directory actually exist within your MSIX package.
ERROR_BAD_FORMAT	0x8007000B	The package isn't correctly formatted and needs to be re-built or re-signed. You may get this error if there is a mismatch between the signing certificate subject name and the AppxManifest.xml publisher name. See How to sign an app package using SignTool.
E_INVALIDARG	0x80070057	One or more arguments are not valid. If you check the AppXDeployment-Server event log and see the following event: "While installing the package, the system failed to register the windows.repositoryExtension extension due to the following error: The parameter is incorrect." You may get this error if the manifest elements DisplayName or Description contain characters disallowed by Windows firewall such as |, due to which Windows fails to create the AppContainer profile for the package. Please remove these characters from the manifest and try installing the package.

ERROR_INSTALL_OPEN_PACKAGE_FAILED	0x80073CF0	The package couldn't be opened. Possible causes: • The package is unsigned. • The publisher name doesn't match the signing certificate subject. • The file:// prefix is missing or the package couldn't be found at the specified location. For more information, check the **AppxPackagingOM** event log.
ERROR_INSTALL_PACKAGE_NOT_FOUND	0x80073CF1	The package couldn't be found. You may get this error while removing a package that isn't installed for the current user.
ERROR_INSTALL_INVALID_PACKAGE	0x80073CF2	The package data isn't valid.
ERROR_INSTALL_RESOLVE_DEPENDENCY_FAILED	0x80073CF3	The package failed update, dependency, or conflict validation. Possible causes: • The incoming package conflicts with an installed package. • A specified package dependency can't be found. • The package doesn't support the correct processor architecture. For more informtion, check the **AppXDeployment-Server** event log.
ERROR_INSTALL_OUT_OF_DISK_SPACE	0x80073CF4	There isn't enough disk space on your computer. Free some space and try again.
ERROR_INSTALL_NETWORK_FAILURE	0x80073CF5	The package can't be downloaded.
ERROR_INSTALL_REGISTRATION_FAILURE	0x80073CF6	The package can't be registered. For more information, check the **AppXDeployment-Server** event log.
ERROR_INSTALL_DEREGISTRATION_EFAILURE	0x80073CF7	The package can't be unregistered. You may get this error while removing a package. For more information, check the **AppXDeployment-Server** event log.
ERROR_INSTALL_CANCEL	0x80073CF8	The user canceled the install request.
ERROR_INSTALL_FAILED	0x80073CF9	Package install failed. Contact the software vendor. For more information, check the **AppXDeployment-Server** event log.
ERROR_REMOVE_FAILED	0x80073CFA	Package removal failed. You may get this error for failures that occur during package uninstall. For more information, see RemovePackageAsync.
ERROR_PACKAGE_ALREADY_EXISTS	0x80073CFB	The provided package is already installed, and reinstallation of the package is blocked. You may get this error if installing a package that is not bitwise identical to the package that is already installed. Note that the digital signature is also part of the

		package. Hence if a package is rebuilt or resigned, it is no longer bitwise identical to the previously installed package. Two possible options to fix this error are: (1) Increment the version number of the app, then rebuild and resign the package (2) Remove the old package for every user on the system before installing the new package.
ERROR_NEEDS_REMEDIATION	0x80073CFC	The app can't be started. Try reinstalling the app.
ERROR_INSTALL_ PREREQUISITE_FAILED	0x80073CFD	A specified install prerequisite couldn't be satisfied.
ERROR_PACKAGE_ REPOSITORY_CORRUPTED	0x80073CFE	The package repository is corrupted. You may get this error if the folder referenced by this registry key doesn't exist or is corrupted: **HKLM\Software\Microsoft\WindowsCurrentVersion\Appx\PackageRepositoryRoot To recover from this state, refresh your PC.**
ERROR_INSTALL_ POLICY_FAILURE	0x80073CFF	To install this app, you need a developer license or a sideloading-enabled system. You may get this error if the package doesn't meet one of the following requirements: - The app is deployed using F5 in Visual Studio on a computer with a Windows developer license. - The package is signed with a Microsoft signature and deployed as part of Windows or from the Microsoft Store. - The package is signed with a trusted signature and installed on a computer with a developer license, a domain-joined computer with the AllowAllTrustedApps policy enabled, or a computer with a Windows Sideloading license with the AllowAllTrustedApps policy enabled.
ERROR_PACKAGE_UPDATING	0x80073D00	The app can't be started because it's currently updating.
ERROR_DEPLOYMENT_ BLOCKED_BY_POLICY	0x80073D01	The package deployment operation is blocked by policy. Contact your system administrator. Possible causes: - Package deployment is blocked by Application Control Policies. - Package deployment is blocked by the "Allow deployment operations in special profiles" policy. One of the possible reasons is a need for a roaming profile. For information about setting up Roaming User Profiles on user accounts, see Deploy Roaming User Profiles. If there are no policies configured on your system and you still see this error, perhaps you are logged in with a temporary profile. Log out and log in again, then try the operation again.
ERROR_PACKAGES_IN_USE	0x80073D02	The package couldn't be installed because resources it modifies are currently in use.
ERROR_RECOVERY_ FILE_CORRUPT	0x80073D03	The package couldn't be recovered because data that's necessary for recovery is corrupted.

ERROR_INVALID_ STAGED_SIGNATURE	0x80073D04	The signature isn't valid. To register in developer mode, AppxSignature.p7x and AppxBlockMap.xml must be valid or shouldn't be present. If you are a developer using F5 with Visual Studio, ensure that your built project directory doesn't contain signature or block map files from previous versions of the package.
ERROR_DELETING_EXISTING_ APPLICATIONDATA_STORE_FAILED	0x80073D05	An error occurred while deleting the package's previously existing application data. You can get this error if the simulator is running. Close the simulator. You can also get this error if there are files open in the app data (for example, if you have a log file open in a text editor).
ERROR_INSTALL_ PACKAGE_DOWNGRADE	0x80073D06	The package couldn't be installed because a higher version of this package is already installed.
ERROR_SYSTEM_ NEEDS_REMEDIATION	0x80073D07	An error in a system binary was detected. To fix the problem, try refreshing the PC.
ERROR_APPX_INTEGRITY_ FAILURE_EXTERNAL	0x80073D08	A corrupted non-Windows binary was detected on the system.
ERROR_RESILIENCY_ FILE_CORRUPT	0x80073D09	The operation couldn't be resumed because data that's necessary for recovery is corrupted.
ERROR_INSTALL_FIREWALL_ SERVICE_NOT_RUNNING	0x80073D0A	The package couldn't be installed because the Windows Firewall service isn't running. Enable the Windows Firewall service and try again.
ERROR_PACKAGE_MOVE_FAILED	0x80073D0B	The package move operation failed.
ERROR_INSTALL_VOLUME_ NOT_EMPTY	0x80073D0C	The deployment operation failed because the volume is not empty.
ERROR_INSTALL_VOLUME_ OFFLINE	0x80073D0D	The deployment operation failed because the volume is offline. For a package update, the volume refers to the installed volume of all package versions.
ERROR_INSTALL_VOLUME_ CORRUPT	0x80073D0E	The deployment operation failed because the specified volume is corrupt.
ERROR_NEEDS_REGISTRATION	0x80073D0F	The deployment operation failed because the specified application needs to be registered first.
ERROR_INSTALL_WRONG_ PROCESSOR_ARCHITECTURE	0x80073D10	The deployment operation failed because the package targets the wrong processor architecture.
ERROR_DEV_SIDELOAD_ LIMIT_EXCEEDED	0x80073D11	You have reached the maximum number of developer sideloaded packages allowed on this device. Please uninstall a sideloaded package and try again.
ERROR_INSTALL_OPTIONAL_ PACKAGE_REQUIRES_ MAIN_PACKAGE	0x80073D12	A main app package is required to install this optional package. Install the main package first and try again.
ERROR_PACKAGE_NOT_ SUPPORTED_ON_FILESYSTEM	0x80073D13	This app package type is not supported on this filesystem.
ERROR_PACKAGE_MOVE_ BLOCKED_BY_STREAMING	0x80073D14	Package move operation is blocked until the application has finished streaming.

|		
ERROR_INSTALL_OPTIONAL_ PACKAGE_APPLICATIONID_ NOT_UNIQUE	0x80073D15	A main or another optional app package has the same application ID as this optional package. Change the application ID for the optional package to avoid conflicts.
ERROR_PACKAGE_STAGING_ ONHOLD	0x80073D16	This staging session has been held to allow another staging operation to be prioritized.
ERROR_INSTALL_INVALID_ RELATED_SET_UPDATE	0x80073D17	A related set cannot be updated because the updated set is invalid. All packages in the related set must be updated at the same time.
ERROR_INSTALL_OPTIONAL_ PACKAGE_REQUIRES_MAIN_ PACKAGE_FULLTRUST_CAPABILITY	0x80073D18	An optional package with a FullTrust entry point requires the main package to have the **runFullTrust** capability.
ERROR_DEPLOYMENT_BLOCKED_ BY_USER_LOG_OFF	0x80073D19	An error occurred because a user was logged off.
ERROR_PROVISION_OPTIONAL_ PACKAGE_REQUIRES_MAIN_ PACKAGE_PROVISIONED	0x80073D1A	An optional package provision requires the dependency main package to also be provisioned.
ERROR_PACKAGES_REPUTATION_ CHECK_FAILED	0x80073D1B	The packages failed the SmartScreen reputation check.
ERROR_PACKAGES_REPUTATION_ CHECK_TIMEDOUT	0x80073D1C	The SmartScreen reputation check operation timed out.
ERROR_DEPLOYMENT_OPTION_ NOT_SUPPORTED	0x80073D1D	The current deployment option is not supported.
ERROR_APPINSTALLER_ ACTIVATION_BLOCKED	0x80073D1E	Activation is blocked due to the .appinstaller update settings for this app.
ERROR_REGISTRATION_FROM_ REMOTE_DRIVE_NOT_SUPPORTED	0x80073D1F	Remote drives are not supported. Use **\server\share** to register a remote package.
ERROR_APPX_RAW_ DATA_WRITE_FAILED	0x80073D20	Failed to process and write downloaded package data to disk.
ERROR_DEPLOYMENT_BLOCKED_ BY_VOLUME_POLICY_PACKAGE	0x80073D21	The deployment operation was blocked due to a per-package-family policy restricting deployments on a non-system volume. Per policy, this app must be installed to the system drive, but that's not set as the default. In Storage settings, make the system drive the default location to save new content, then retry the install.
ERROR_DEPLOYMENT_BLOCKED_ BY_VOLUME_POLICY_MACHINE	0x80073D22	The deployment operation was blocked due to a machine-wide policy restricting deployments on a non-system volume. Per policy, this app must be installed to the system drive, but that's not set as the default. In Storage settings, make the system drive the default location to save new content, then retry the install.

ERROR_DEPLOYMENT_BLOCKED_ BY_PROFILE_POLICY	0x80073D23	The deployment operation was blocked because special profile deployment is not allowed (special profiles are user profiles where changes are discarded after the user signs out). Try logging into an account that is not a special profile. You can try logging out and logging back into the current account, or try logging into a different account.
ERROR_DEPLOYMENT_FAILED_ CONFLICTING_MUTABLE_PACKAGE_ DIRECTORY	0x80073D24	The deployment operation failed due to a conflicting package's mutable package directory. To install this package, remove the existing package with the conflicting mutable package directory.
ERROR_SINGLETON_RESOURCE_ INSTALLED_IN_ACTIVE_USER	0x80073D25	The package installation failed because a singleton resource was specified and another user with that package installed is logged in. Make sure that all active users with the package installed are logged out and retry installation.
ERROR_DIFFERENT_VERSION_ OF_PACKAGED_SERVICE_INSTALLED	0x80073D26	The package installation failed because a different version of the service is installed. Try installing a newer version of the package.
ERROR_SERVICE_EXISTS_ AS_NON_PACKAGED_SERVICE	0x80073D27	The package installation failed because a version of the service exists outside of an .msix/.appx package. Contact your software vendor.
ERROR_PACKAGED_SERVICE_ REQUIRES_ADMIN_PRIVILEGES	0x80073D28	The package installation failed because administrator privileges are required. Contact an administrator to install this package.
ERROR_REDIRECTION_TO_ DEFAULT_ACCOUNT_NOT_ALLOWED	0x80073D29	The package deployment failed because the operation would have redirected to default account, when the caller said not to do so.
ERROR_PACKAGE_LACKS_ CAPABILITY_TO_DEPLOY_ON_HOST	0x80073D2A	The package deployment failed because the package requires a capability to natively target this host.
ERROR_UNSIGNED_PACKAGE_ INVALID_CONTENT	0x80073D2B	The package deployment failed because its content is not valid for an unsigned package.
ERROR_UNSIGNED_PACKAGE_ INVALID_PUBLISHER_NAMESPACE	0x80073D2C	The package deployment failed because its publisher is not in the unsigned namespace.
ERROR_SIGNED_PACKAGE_ INVALID_PUBLISHER_NAMESPACE	0x80073D2D	The package deployment failed because its publisher is not in the signed namespace.
ERROR_PACKAGE_EXTERNAL_ LOCATION_NOT_ALLOWED	0x80073D2E	The package deployment failed because its publisher is not in the signed namespace.
ERROR_INSTALL_FULLTRUST_ HOSTRUNTIME_REQUIRES_MAIN_ PACKAGE_FULLTRUST_CAPABILITY	0x80073D2F	A host runtime dependency resolving to a package with full trust content requires the main package to have the **runFullTrust** capability.
APPX_E_PACKAGING_INTERNAL	0x80080200	The packaging API has encountered an internal error.
APPX_E_INTERLEAVING_ NOT_ALLOWED	0x80080201	The package isn't valid because its contents are interleaved.
APPX_E_RELATIONSHIPS_ NOT_ALLOWED	0x80080202	The package isn't valid because it contains OPC relationships.

APPX_E_MISSING_REQUIRED_FILE	0x80080203	The package isn't valid because it's missing a manifest or block map, or a code integrity file is present but a signature file is missing. Ensure that the package isn't missing one or more of these required files: • \AppxManifest.xml • \AppxBlockMap.xml If the package contains \AppxMetadata\CodeIntegrity.cat, it must also contain \AppxSignature.p7x.
APPX_E_INVALID_MANIFEST	0x80080204	The package's AppxManifest.xml file isn't valid.
APPX_E_INVALID_BLOCKMAP	0x80080205	The package's AppxBlockMap.xml file isn't valid.
APPX_E_CORRUPT_CONTENT	0x80080206	The package contents can't be read because it's corrupted.
APPX_E_BLOCK_HASH_INVALID	0x80080207	The computed hash value of the block doesn't match the has value stored in the block map.
APPX_E_REQUESTED_RANGE_TOO_LARGE	0x80080208	The requested byte range is over 4 GB when translated to a byte range of blocks.
TRUST_E_NOSIGNATURE	0x800B0100	No signature is present in the subject. You may get this error if the package is unsigned or the signature isn't valid. The package must be signed to be deployed.
CERT_E_UNTRUSTEDROOT	0x800B0109	A certificate chain processed, but terminated in a root certificate which isn't trusted by the trust provider. See Signing a package.
CERT_E_CHAINING	0x800B010A	A certificate chain couldn't be built to a trusted root certification authority. See Signing a package.
APPX_E_INVALID_SIP_CLIENT_DATA	0x80080209	The SIP_SUBJECTINFO structure used to sign the package didn't contain the required data
APPX_E_INVALID_KEY_INFO	0x8008020A	The APPX_KEY_INFO structure used to encrypt or decrypt the package contains invalid data.
APPX_E_INVALID_CONTENTGROUPMAP	0x8008020B	The .msix/.appx package's content group map is invalid.
APPX_E_INVALID_APPINSTALLER	0x8008020C	The .appinstaller file for the package is invalid.
APPX_E_DELTA_BASELINE_VERSION_MISMATCH	0x8008020D	The baseline package version in delta package does not match the version in the baseline package to be updated.
APPX_E_DELTA_PACKAGE_MISSING_FILE	0x8008020E	The delta package is missing a file from the updated package.
APPX_E_INVALID_DELTA_PACKAGE	0x8008020F	The delta package is invalid.
APPX_E_DELTA_APPENDED_PACKAGE_NOT_ALLOWED	0x80080210	The delta appended package is not allowed for the current operation.

APPX_E_INVALID_PACKAGING_LAYOUT	0x80080211	The packaging layout file is invalid.
APPX_E_INVALID_PACKAGESIGNCONFIG	0x80080212	The packageSignConfig file is invalid.
APPX_E_RESOURCESPRI_NOT_ALLOWED	0x80080213	The resources.pri file is not allowed when there are no resource elements in the package manifest.
APPX_E_FILE_COMPRESSION_MISMATCH	0x80080214	The compression state of file in baseline and updated package does not match.
APPX_E_INVALID_PAYLOAD_PACKAGE_EXTENSION	0x80080215	Non .appx extensions are not allowed for payload packages targeting older platforms.
APPX_E_INVALID_ENCRYPTION_EXCLUSION_FILE_LIST	0x80080216	The encryptionExclusionFileList file is invalid.

Applications don't start and their names are dimmed

On a computer running Windows 10 or later, you can't start some applications, and the application names appear dimmed.
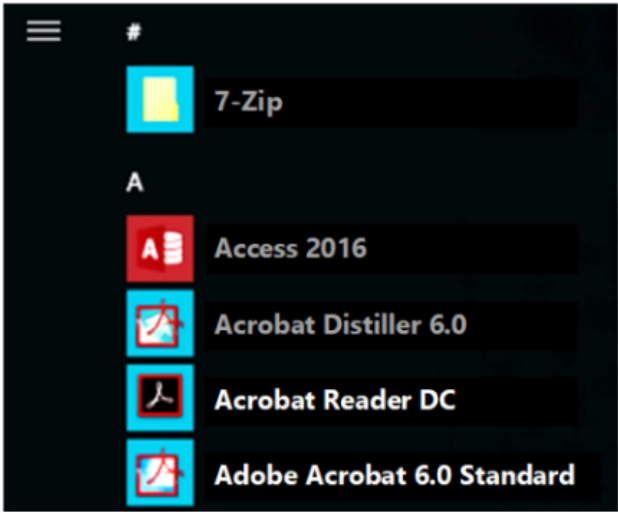
When you try to open an application by selecting the dimmed name, you may receive one of the following error messages:

> There's a problem with *<application name>*. Contact your system administrator about repairing or reinstalling it
> Error: This app can't open

Additionally, the following event entries are logged in the "Microsoft-Windows-TWinUI/Operational" log under **Applications and Services\Microsoft\Windows\Apps**:

> Log Name: Microsoft-Windows-TWinUI/Operational
> Source: Microsoft-Windows-Immersive-Shell
> Date: *<date>*

> Event ID: 5960
> Task Category: (5960)
> Level: Error
> Keywords:
> Description:
> Activation of the app Microsoft.BingNews_8wekyb3d8bbwe!AppexNews for the Windows. Launch contract was blocked with error 0x80073CFC because its package is in state: Modified.

Cause

This issue occurs because the registry entry for the status value of application's corresponding package was modified.

Resolution

> ⚠ **Warning**
>
> Serious problems might occur if you modify the registry incorrectly by using Registry Editor or by using another method. These problems might require that you reinstall the operating system. Microsoft cannot guarantee that these problems can be solved. Modify the registry at your own risk.

To fix this issue:

1. Start Registry Editor, and then locate the **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\AppModel\StateChang** subkey.
2. To back up the subkey data, right-click **PackageList**, select **Export**, and then save the data as a registry file.
3. For each of the applications that are listed in the Event ID 5960 log entries, follow these steps:
   a. Locate the **PackageStatus** entry.
   b. Set the value of **PackageStatus** to zero (**0**).

   > ⓘ **Note**
   >
   > If there are no entries for the application under **PackageList**, then the issue has some other cause. In the case of the example event in this article, the full subkey is **HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\AppModel\StateChange\PackageList\Microsoft.BingNews_8wekyb3d8bbwe!AppexNews\PackageStatus**

4. Restart the computer.

Get additional help

If you need further help with resolving a problem you are experience when packaging, deploying, or querying a Windows app package (.msix/.appx) as a developer, refer to these additional developer support resources.

- Microsoft Q&A offers relevant and timely answers to your technical problems from a community of experts and Microsoft engineers.
- For community assistance with development questions, there are our forums ⬈, and StackOverflow ⬈.
- The Windows developer support site explains other support options.

Related topics

- How to sign an app package using SignTool
- How to troubleshoot app package signature errors

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