Tip: User Interface Levels for MSI Installations

Robert Dickau
Principal Technical Training Writer
Flexera Software

Abstract

A Basic MSI installation created by InstallShield supports several different user-interface levels. This article provides an overview of the available user-interface levels provided by the Windows Installer service.

Overview

One way to install a Windows Installer package is to run the executable msiexec.exe with the **/i** switch followed by the absolute or relative path to the MSI database. (The executable msiexec.exe is located in the SystemFolder directory of any system that has the Windows Installer service installed.) For a normal installation, the command line might appear as follows:

```
msiexec /i SampleApp.msi
```

Note that if the MSI database name or path contains any spaces, it must be enclosed in quotation marks:

```
msiexec /i "C:\Packages\Sample App\SampleApp.msi"
```

Running the previous command is effectively the same as double-clicking the MSI database, where the appropriate dialog-box actions contained in the InstallUISequence table are displayed. For a first-time installation, the dialog boxes displayed typically include a Welcome dialog box, a Customer Information dialog box, a Setup Type dialog box, a Ready to Install dialog box, a Setup Progress dialog box, and a Setup Complete dialog box.

To run an installation so that fewer or no dialog boxes are displayed, you can pass the **/q** (for "quiet") switch to msiexec.exe, as described in the following sections.

Silent Installations

To run a setup program silently, add the /qn switch to the command line. For example:

```
msiexec /i SampleApp.msi /qn
```

You can also place the **/qn** switch before the **/i** switch; note, however, that the installation will fail (with an "Incorrect command-line parameters" message) if you place the **/qn** switch between the **/i** switch and the name of the MSI database.

Running an installation silently with the previous command performs the installation with all its default settings. If you want to change the behavior of the silent installation, you can pass the values of public Windows Installer properties (properties with all-uppercase names) at the command line, as in the following:

```
msiexec /i SampleApp.msi /qn INSTALLDIR="C:\Apps\SampleApp"
USERNAME="Valued Employee"
```

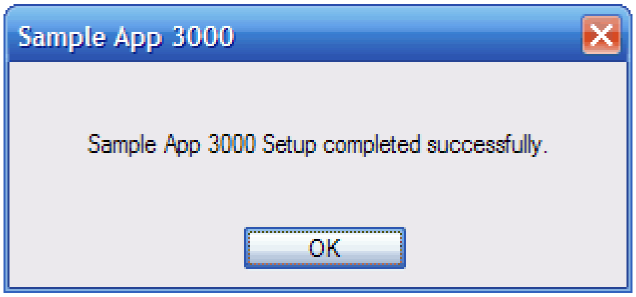
If a property value contains any spaces, it must be enclosed in quotation marks; there must also be no space on either side of the equal-sign between the property name and property value. For a complete list of public properties, see the InstallShield online help and the MSI Help Library.

It is important to note that running an installation silently causes Windows Installer to skip the actions in your installer's User Interface sequence; if you have any custom actions that you want to be performed during a silent installation, you should place them in the Execute sequence.

A silent installation, as performed with the command above, will not display any dialog boxes, even if an error occurs. If you want to display a confirmation message box when the installation is complete, you can use the **/qn+** switch:

```
msiexec /i SampleApp.msi /qn+
```

The completion dialog displayed with the **/qn+** switch appears as follows:



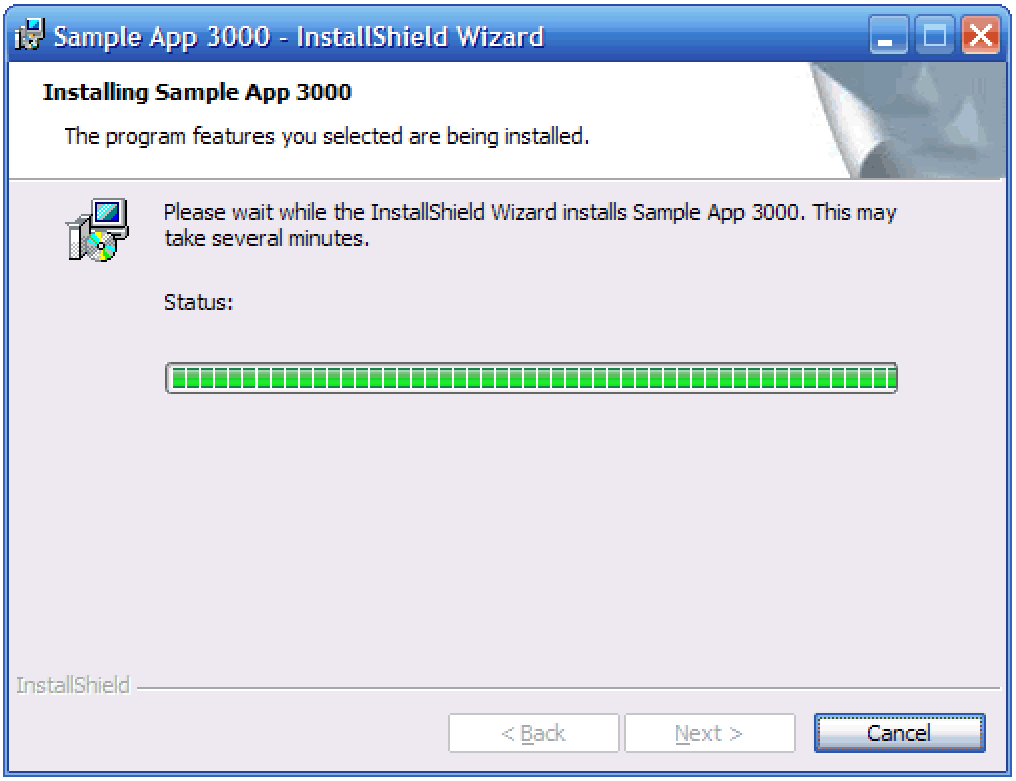
Sample App 3000 Setup completed successfully.

Reduced User Interface

Instead of running an installation completely silently, you can run it so that it displays different types of progress information. To run the installation so that it displays a full-size progress dialog box, you can run the installation with a "reduced" user interface by specifying the **/qr** switch.

```
msiexec /i SampleApp.msi /qr
```

The reduced-UI progress dialog box appears as follows.



Sample App 3000 - InstallShield Wizard

Installing Sample App 3000

The program features you selected are being installed.

Please wait while the InstallShield Wizard installs Sample App 3000. This may take several minutes.

Status:

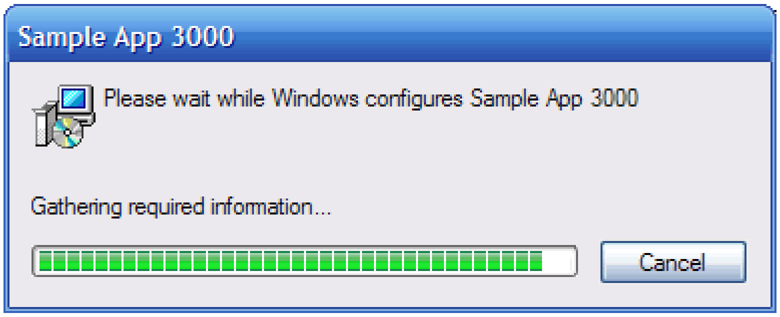
As with a completely silent installation, a reduced-UI installation skips the actions in the User Interface sequence.

Basic User Interface

Another supported user-interface level is the "basic" user interface, which displays a smaller progress dialog box. To run an installation with the basic user interface, you can use the **/qb** switch.

```
msiexec /i SampleApp.msi /qb
```

The basic-UI progress dialog box appears as follows. (This is the user-interface level used when the user clicks the Remove button for your product in Add or Remove Programs.)



Sample App 3000

Please wait while Windows configures Sample App 3000

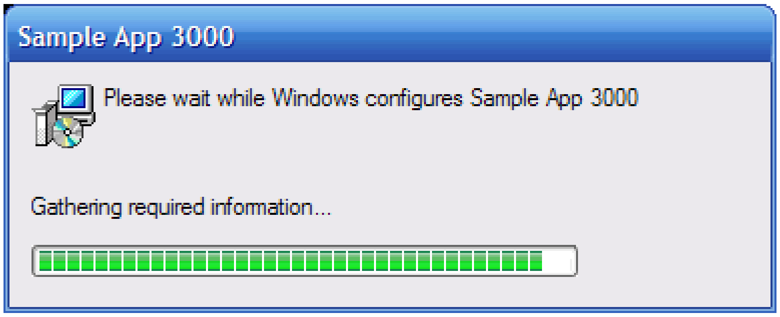
Gathering required information...

You can limit an installer's user-interface level to the basic UI by adding the LIMITUI property to the Property table, giving it the value 1; this limits the installation to the basic

UI even if the user simply double-clicks the MSI database. If you do populate the LIMITUI property, the MSI documentation recommends you also populate the ARPNOMODIFY property, which disables the Change button in the user's Add or Remove Programs panel, and therefore prevents the user from seeing the full user interface during maintenance mode.

Windows Installer version 2.0 introduced the **/qb!** switch, which runs the installation with the basic UI pictured in the figure above, additionally hiding the Cancel button on the progress dialog box.

```
msiexec /i SampleApp.msi /qb!
```



Sample App 3000

Please wait while Windows configures Sample App 3000

Gathering required information...

Once again, running an installer with the basic user interface performs only the actions contained in the installer's Execute sequence.

Additional Notes

- To determine the user-interface level being used by a running installation, you can create conditions that test the value of the **UILevel** property. The UILevel property contains the value 5 for a full-UI installation, 4 for a reduced-UI installation, 3 for a basic-UI installation, and 2 for a completely silent installation; if you have a custom action that should run only during a full-UI installation, you can schedule the action with the condition **UILevel=5**. Keep in mind that actions in the User Interface sequence will be skipped for anything other than a full-UI installation, irrespective of any conditions associated with them.

- As an alternative to using msiexec.exe, you can launch an MSI package from VBScript code using the InstallProduct method of the MSI Automation interface; you can set the UI level for an installation launched from VBScript code by setting the UILevel property of the Installer object before calling InstallProduct. For example:

  ```
  Set msi = CreateObject("WindowsInstaller.Installer")
  ' set the UI level to basic
  msi.UILevel = 3
  ' launch the installer
  msi.InstallProduct "C:\Packages\Sample App\SampleApp.msi", ""
  ' clean up
  Set msi = Nothing
  ```

- Similarly, in C code, you can call **MsiSetInternalUI** before calling **MsiInstallProduct.** Note, however, that you cannot change the user-interface of a running installation (that is, inside a custom action).

For more information, see the MSI Help Library topics "User Interface Levels" and "Command Line Options".