InstallShield® Express Edition

Compact Project User Guide

Version 11.5

macrovision

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COMPACT PROJECTS

The documentation about the Compact project type is organized into the following sections:

Table 1-1: Sections in the Documentation for Compact Projects

Section	Description
Installation and Project Fundamentals	Contains introductory information about InstallShield 11.5 Express Edition and installation projects.
Creating Installations	Describes the main tasks involved in working with InstallShield 11.5 Express Edition projects.
Reference	Contains comprehensive reference information for the InstallShield 11.5 Express Edition user interface; errors and warnings that might occur when you build your installation; and sample end-user dialogs.

Installation and Project Fundamentals

The following sections provide general information about installations and InstallShield 11.5 Express Edition projects.

What Is an Installation?

An installation, in its simplest terms, is the "package" used to install your files and programs onto your end user's machine. It is a complete collection of the application files, as well as logic that interacts with the installer service. The primary task of any installation is to transfer the application files from the installation disk to the end user's computer. The complexities of the Windows operating system make it anything

but simple to create an effective, coherent installation without the aid of a utility such as InstallShield 11.5 Express Edition.

Overview of Installations

Even if you are unsure what an installation is, you have probably used one before. If you have ever installed a product onto your computer, you have seen an installation in action, from the end user's perspective. The installation transfers files from the source medium to your local drive. It also makes the required registry entries, and creates shortcuts. Installations commonly gather information about the target machine and the user.

Typical Elements of an Installation

Perform File Transfer

File transfer involves copying files from the source medium, such as a CD or a floppy disk, to a local drive on the end user's machine. Depending on the configuration the end user chooses, all or only some of the files may be transferred to the local disk. During file transfer, a status bar may be displayed to show the progress of the file transfer process.

Display User Interface

The user interface of an installation provides information and installation configuration choices to the end user. Through the user interface, an end user can choose to install only part of a product, view a license agreement, or provide information to the installer that may be necessary to ensure the proper configuration of the installation.

Create Shortcuts

Shortcuts are links to files and applications that can be created on the end user's machine during an installation. Shortcuts are often placed on the desktop or the Start menu of the target machine to provide quick and easy access to a program or its files.

Register Product for Uninstallation

In order to uninstall a product, the operating system must know that the product is present. Therefore, an installation registers a product with the operating system so that it can be easily uninstalled. Much of the information registered in this process is available to the end user through Add or Remove Programs in the Control Panel. For example, technical support contact information, product update information, product version, and product publisher information are all registered in this process.

InstallShield 11.5 Express Edition Projects

When you create your installation, you also create an InstallShield project file, which has an .ise file extension. This file stores all the logic and information necessary to build the `Setup.exe` installation file, which you can distribute to your end users. When you exit InstallShield, the project file is automatically saved.

All new projects are saved in the following default location:

```
C:\My InstallShield Express Projects
```

This default location appears in the Save As dialog box.

Project Types

A Compact project uses a special compact installer engine to provide the user interface for an installation. When you choose this project type, you need to create features and specify all application files and other distributable data.

Although Compact installation projects have some limitations—for example, English is the only language available for the end user interface—they enable you to create a very small executable file (`Setup.exe`) that you can distribute to end users. This `Setup.exe` file is a compressed, self-extracting file that contains all of the application files, as well as the Compact installer engine.

Limitations of Compact Projects

Installations that are built with the Compact project type in InstallShield automatically include a special installer—the Compact Installer. The Compact project type lets you quickly create a `Setup.exe` installation file that is very small and suitable for Web downloads.

The Compact project type is ideal if you need to create a small installation composed of files, registry settings, and shortcuts. If you want your project to have any of the following functionality, you should switch to a Windows Installer–based or InstallScript-based project type:

- Include redistributables (merge modules and objects).
- Scan the files in your project for any dependencies that they require, and add the detected dependencies to your project.
- Include an ODBC resource.
- Make .ini file changes.
- Make .xml file changes.
- Set environment variables on the target system.
- Manage IIS on a target system.

- Add a COM+ application to your project.
- Add mobile device support to your project.
- Include custom actions.
- Create an upgrade or a patch to update an earlier version of the application.
- Include support files (that is, files that are needed during the installation but are removed before the installation ends).
- Display billboards during the run time of the installation.
- Enable your installation to be updated via the Update Service.
- Search for installed data on the target machine at run time.

In addition, English is the only language available for the end-user interface of a Compact installation.

Note that you cannot create a patch or an upgrade for an application that was packaged with the Compact project type. In addition, the Compact Installer does not let end users reinstall the same application to the same location on the target machine without first removing the application through Add or Remove Programs in the Control Panel. End users do have the ability to install an already installed application to a different location and remove the earlier installation through Add or Remove Programs.

Creating New Projects

There are a number of ways to create a new InstallShield project.

TASK **To create a new project, do one of the following:**

- Click the **New Project** button on the toolbar.
- On the **Start Page**, in the **Project Tasks** section, click **Create a new project**.
- Press CTRL+N.
- On the **File** menu, click **New**.

Any of these steps opens the New Project dialog box, where you can specify the file name for the project that you want to create. Once you entered the necessary project information in the New Project dialog box and clicked OK, the Project Assistant is opens to help you create your project.

Opening an Existing Project

TASK **To open an installation project by using the Open Project button or the Open command:**

1. On the toolbar, click the **Open Project** button, or on the **File** menu, click **Open**. The **Open** dialog box opens.
2. Select the project that you would like to open.
3. Click the **Open** button.

TASK **To open a project by using the Start Page:**

1. Click the **Start Page** tab.
2. In the **Project Tasks** section, click **Open an existing project**. The **Open** dialog box opens.
3. Select the project that you would like to open.
4. Click the **Open** button.

Using the Project Assistant

When you create a new installation project, the Project Assistant is automatically activated. The Welcome page contains an Installation Design Diagram to help you visualize the steps involved in creating an installation. Work within the Project Assistant to create your project.

Navigating in the Project Assistant

TASK **To navigate from one page of the Project Assistant to another, do one of the following:**

- To navigate directly to a specific page, click the appropriate icon in the navigation bar at the bottom of the page.
- To follow the Project Assistant steps sequentially, do one of the following:
  - » Click the Next or Back arrow buttons to move forward or backward.
  - » Press CTRL+TAB to move to the next panel and CTRL+SHIFT+TAB to move to the previous panel.
- To move back to the Home page and view the Installation Design Diagram, click the Home button on the navigation bar.

Using the Section Links

The left area of each page contains up to two sections of links, when applicable, to assist you in creating your installation and finding information:

- **More Options**—Provides additional configuration options relating to the specific area on the Project Assistant page. These are less common options that complete the functionality of the Project Assistant.
- **Help Links**—This list provides links to help topics pertinent to the current Project Assistant page.

Saving an Installation Project

To save an installation project, do one of the following:

- On the toolbar, click the **Save** button.
- On the **File** menu, click **Save**.
- Close your installation project. InstallShield notifies you if any unsaved changes have been made and asks if you want to save them now.

Since you specified a file name and location when you first created your installation, you will not be prompted for that information again.

TIP *If you want to save a copy of your installation project, on the File menu, click Save As, and specify a new file name for your project.*

Changing the Default Project Location

TASK **To specify a new default location for your installation projects:**

1. On the **Tools** menu, click **Options**. The **Options** dialog box opens.
2. Click the **File Locations** tab.
3. In the **Project Location** box, type a new path or click **Browse** to find the new location.
4. Click **OK**.

Creating Installations

If you have ever installed an application onto your computer, you have seen an installation in action—from the end user's perspective. An installation's primary task is to transfer files from the source medium to the local drive. An installation often also

displays a user interface to obtain end-user selections and configures the target system (for example, makes any required registry entries and creates shortcuts). Creating an installation involves performing some or all of the following tasks.

Specifying General Application Information

The Application Information page is where you specify general information about the application your project will install, including the application's name and version, and your company's name and Web address.

The More Options section on this page lets you set additional properties such as the product GUID, your company's support Web address, and your company's support telephone number. You can also modify the default installation folder for your application.

The initial value for the default installation folder is as follows:

`[ProgramFilesFolder]<Company Name>\[Product Name]`

This setting serves as the default folder for all of your application's files. It is important to note that when you are setting this installation folder, you are specifying a default value. An end user could override this value during installation by selecting a new destination folder in the Choose Destination Location dialog.

Add or Remove Programs in Control Panel

Add or Remove Programs in Control Panel provides a list of the applications that are installed on a computer system. End users can view information about the applications installed on a machine and add, modify, or remove programs from Add or Remove Programs.

Add or Remove Programs on Windows 2000, Me, and XP platforms differs from that on earlier Windows operating systems in many ways. Depending on how an installation is configured, the end user has the option of removing, repairing, or changing the installation with the click of a button.

In Add or Remove Programs with Windows 2000, Me, or XP, users are also able to access additional information that is not available with earlier platforms. With this information, it is easier for your end users to find technical support links and phone numbers, product update information, and information about your company.

The information you provide on the Application Information page of the Project Assistant is used to populate information about your application for Add or Remove Programs when your application is installed.

Company Name and Product Name in Your Installation

Your company name and product name are used in several places in your installation project.

Your company name is used to set the default installation directory for your application. It is also used in Add or Remove Programs in the Control Panel for your application on the end user's system.

Your product name is used in your application's entry in Add or Remove Programs in the Control Panel (in the support information link) on the target system. It is also used in setting the default installation directory.

Editing the Default Installation Location

TASK **To edit the default installation location:**

1. Open the **Application Information** page of the **Project Assistant**.
2. In the **More Options** section, click **Edit the default installation location**. The **Set INSTALLDIR** dialog box opens.
3. In the **Destination Directories** box, select the directory that should be used as the default installation folder. If you would like to create a new folder, select a directory or **Destination Computer**, and press INSERT. A directory is created beneath the selected item.
4. Click **OK**.

Specifying Support Contact Information

You can specify your company's support Web address and phone number if you would like this information to be displayed for your application on the Support Info dialog box of Add or Remove Programs in Control Panel.

TASK **To set the support Web address and phone number for your application:**

1. Open the **Application Information** page of the **Project Assistant**.
2. In the **More Options** section, click **Set Additional Properties**. The **Additional Properties** dialog box opens.
3. In the **Specify your company's support web address** box, type the URL that you would like your users to visit for technical support.

4. In the **Specify your company's support telephone number** box, type the technical support phone number that your users can call to get help with your product.
5. Click **OK**.

Changing Your Application's Product GUID

Your application's product GUID is a string GUID that uniquely identifies this product release. Since the product GUID uniquely identifies this release, changing the product code after you have already distributed your release is not recommended. The product code GUID should be uniquely generated for each version of your product.

TASK **To change your application's product GUID:**

1. Open the **Application Information** page of the **Project Assistant**.
2. In the **More Options** section, click **Set Additional Properties**. The **Additional Properties** dialog box opens.
3. Click **Generate New Product GUID**. A unique GUID is generated.
4. Click **OK**.

Specifying Operating System Requirements for Your Application

The Installation Requirements page enables you to easily set installation requirements for the target system. For example, if your application requires a specific operating system in order to run properly, you can indicate that on this page. You can also specify the error message text that the installation should display for the end user if the operating system requirements are not met.

When you specify operating system requirements on the Installation Requirements page, InstallShield creates launch conditions.

How InstallShield Creates the Operating System Launch Conditions

When you specify operating system requirements on the Installation Requirements page, you are essentially excluding operating systems that do not support your application.

For example, if you select only the check box for the latest Windows operating system, InstallShield creates a launch condition to exclude the operating systems that you did not select on the Installation Requirements page. With this type of launch

condition, future versions of Windows operating systems are supported automatically because they are not excluded in the launch condition.

If you select each of Windows 9x check boxes, the launch condition that InstallShield creates excludes all Windows NT operating systems. In this scenario, any future Windows NT operating systems are not supported, but all future Windows 9x operating systems are supported.

NOTE *You may need to install a different version of a feature depending on the operating system of the target system. For more information, see Specifying Feature Properties.*

When Does the Installation Check for Requirements?

To ensure that the required operating system is present on the target system, InstallShield checks for these requirements in the beginning of the installation before any files are transferred.

Specifying the Features for Your Application

The Installation Architecture page lets you specify the features that you want your installation program to display to the end user. A feature is the smallest separately installable piece of your product from the end user's standpoint. If you have more than one feature in your installation, the Feature Selection dialog is displayed during installation, enabling end users to select which feature or features should be installed.

NOTE *Features can contain subfeatures, subsubfeatures, and so forth, to as many levels as your installation program requires.*

Adding a Feature

TASK **To add a feature:**

1. Open the **Installation Architecture** page of the **Project Assistant**.
2. Select **Yes** to indicate that you want to customize your installation architecture.
3. To add a main feature, click the **Installation Architecture** node. To add a subfeature, click the feature that you want to be the parent feature.
4. Click **New**. The Project Assistant creates a new feature.
5. Name the feature or click **Rename** to name it later.

TIP *To set whether a feature is listed in the Select Features end-user dialog, and to specify the description associated with a feature, see Specifying the Features for Your Application.*

Specifying Feature Properties

The Installation Architecture page enables you to set several properties that determine if and how a feature or subfeature is listed in the Select Features end user dialog. It also lets you set any operating system requirements for a feature or subfeature.

NOTE *You cannot create conditions for the Always Install feature.*

TASK **To specify the properties of a feature or subfeature:**

1. Open the **Installation Architecture** page of the **Project Assistant**.
2. Add the new feature if you have not already done so.
3. Select the feature whose properties you want to set.
4. Click **Properties**. The Properties dialog box opens.
5. On the **General** tab, set the properties that determine if and how the feature is listed in the Select Features end-user dialog.
6. On the **Operating System** tab, set any operating system requirements for the feature.

Determining Whether to Create a Multiple-Feature Installation

Features are the building blocks of an installation, from the end user's perspective. Because of this, features should represent distinct and discrete pieces of functionality within your installation.

If your application has different blocks of functionality, you should create a multiple-feature installation. For example, if your installation contains your application (.exe file) and a help library (.hlp file), your installation project should contain at least two features—one for each piece of functionality.

To learn more about creating a multiple-feature installation within the Project Assistant, see Creating Installations with Multiple Features.

Creating Installations with Multiple Features

You can use the Project Assistant to create an installation with multiple features.

TASK **To create a multiple-feature installation in the Project Assistant:**

1. Open the **Installation Architecture** page of the **Project Assistant**.
2. Select **Yes** to indicate that you want to customize your installation architecture.
3. Right-click **Installation Architecture** and click **New**. A new feature is created.
4. Press F2 or right-click the feature and click **Rename** to provide a name for the new feature.

To create a subfeature, right-click the feature that you want to be the parent feature and create a new feature under the parent feature.

Default Features

All resources (for example, files or registry data) that are added to an installation project need to be associated with a feature. If a resource is not associated with a feature, it is not installed to the target system at run time.

Using a default feature simplifies the authoring experience in the Project Assistant. You do not need to worry about associating project resources with a feature to ensure that they are installed. When you add registry data, create new shortcuts, or add files when All Application Data is selected, all of these resources are added to the default feature. This ensures that all of the project resources you add in the Project Assistant will be installed to the target system when an end user runs your installation.

Setting the Default Feature

TASK **To specify which feature is the default:**

1. Open the **Installation Architecture** page of the **Project Assistant**.
2. Select the feature that you would like to set as the default feature.
3. Select **Set Default**.

What Happens If There Are No Features or No Default Feature Is Selected?

When you open the Installation Architecture page or add data to the Application Files, Application Shortcuts, or Application Registry pages, InstallShield selects the Always

Install feature as the default feature. If there are no features, InstallShield creates one silently.

Defining Feature Hierarchy

Top-level features are the highest level in the feature hierarchy. Top-level features might include the application you want to install, a help library feature, and a sample projects feature.

Beneath the top-level features are subfeatures or child features. This is a feature that is dependent upon another feature for installation purposes. If the parent (or top-level) feature is not installed on the target system, the child feature is not installed.

Specifying Application Files for Your Installation

The Application Files page lets you specify the files that you want to associate with each of your features.

Adding a File to a Feature

TASK **To add a file to a feature:**

1. Open the **Application Files** page of the **Project Assistant**.
2. In the feature list at the top of the page, select the feature to which you want to add a file.
3. In the **Destination Computer** explorer, select the folder to which you want to add the file.
4. Click **Add Files**. The **Open** dialog box opens.
5. Browse to the file that you want to add.
6. Click **Open**.

Removing a File from a Feature

TASK **To remove a file from a feature:**

1. Open the **Application Files** page of the **Project Assistant**.
2. Click the file you want to remove and press DELETE.

Overwriting Files on the Target Machine

When files are transferred during an installation, and a file in the installation already exists on the target machine, the installer compares the version, date, and language of the files to determine which version should remain. The installer also checks the Always Overwrite property of a file. The following rules are enforced by the installer service:

Table 1-2: File Overwrite Rules

Rule	Description
Always Overwrite	If you indicate that a file should always be overwritten, the file—if it exists on the target system—is always overwritten, regardless of the file version, language, or date. On the File Properties dialog box, select the Always Overwrite check box to specify that the file should always be overwritten.
Versioned files	In all cases, the file with the highest version is maintained, even if the file already on the target machine has a higher version than the one being installed. Additionally, a file of any version is maintained over unversioned files.
File language	All other things being equal, the file that is the same language as the installation is maintained over different language versions of the file. The only exception to this rule applies to multiple language files. Files with multiple languages are maintained over single language versions of a file.
Date	If the modified date of a file already present on the target machine is later than the creation date of that file, the file is not overwritten. This rule protects user preference files from being wiped out during an upgrade or reinstallation.

Adding Files to a Fixed Folder Location

If you know exactly where you want the installation to install your project files on the target system, you can hard-code a fixed folder destination.

TASK **To add files to a fixed folder location:**

1. Open the **Installation Architecture** page of the **Project Assistant**.
2. Right-click **Destination Computer** and select **New Folder**.
3. For the new folder's name, type the drive on which the destination is located—for example:

   ```
   C:
   ```

4. Further define the destination path by adding subfolders beneath the drive letter folder.

Viewing Additional Predefined Folders

The Application Files page displays the more commonly used predefined folders. You can view and hide predefined folders on this page.

TASK **To display additional predefined folders:**

Right-click **Destination Computer**, point to **Show Predefined Folder**, and click the folder that you want to be displayed.

TASK **To hide a predefined folder:**

Right-click **Destination Computer**, point to **Show Predefined Folder**, and click the folder that you want to be hidden.

Defining Your Application Shortcuts

The Application Shortcuts page lets you specify shortcuts for your application's files on the target system's desktop or Start menu. By default, this page displays a shortcut for each executable that you have included in your installation project. You can delete these and add shortcuts to other files that you have included in your installation project.

Modifying a Default Shortcut

TASK **To modify a default shortcut:**

1. Open the **Application Shortcuts** page of the **Project Assistant**.
2. Click the shortcut that you would like to modify.
3. Select the **Create shortcut in Start Menu** check box, the **Create shortcut on Desktop** check box, or both as appropriate.

Creating an Uninstallation Shortcut

You can create an uninstallation shortcut to make it easier for end users to uninstall your product from their systems. When an end user launches the shortcut, the unnistallation process automatically starts.

TASK **To create an uninstallation shortcut:**

1. Open the **Application Shortcuts** page of the **Project Assistant**.
2. In the **More Options** section, click **Create an uninstallation shortcut**.

Updating the Registry

The registry is a database for your computer's configuration information. Information included in a computer's registry includes user profiles, hardware and software installed on the computer, and property settings.

How Do I Know What Registry Data My Application Requires?

The application developer should be able to provide registry information for you. Specifically, you will need to know if the application you are installing requires any user-specific (HKEY_CURRENT_USER) or machine-specific (HKEY_LOCAL_MACHINE) settings.

The developer can provide a .reg file that you add to your installation. InstallShield enables you to import .reg files into your installation project.

Handling Registry Entries for a Per-User Installation

Since the current user may not have sufficient privileges for modifying keys under HKEY_LOCAL_MACHINE under Windows NT, Windows 2000, and Windows XP, you may need to write the entries under HKEY_CURRENT_USER.

When you select HKEY_USER_SELECTABLE on the Application Registry page of the Project Assistant, the entries are created under the appropriate registry hive, according to the type of installation and the user's access rights. In a per-user installation, meaning that the installation is being run by someone with user-level access privileges, these entries would be made under HKEY_CURRENT_USER. In a per-machine installation, meaning that ALLUSERS is not null and that the user is an administrator, the entries would be written under HKEY_LOCAL_MACHINE.

Specifying Registry Data

The Application Registry page lets you specify any registry data that your application requires.

TASK **To add registry data:**

1. Open the **Application Registry** page of the **Project Assistant**.
2. Select **Yes** in answer to the question about configuring registry data.
3. Right-click the registry item to which you want to add the data, point to **New**, and click **Key**.
4. Name the key.
5. Right-click the key, point to **New**, and click one of the following: **Default Value String Value**, **Binary Value**, **DWORD Value**, **Multi-String Value**, or **Expandable String Value**, depending on the type of data you want to register.

TASK **To specify or modify a registry value:**

1. In the **Destination computer's registry data** box, double-click the value that you would like to specify or modify. The **Edit Data** dialog box opens.
2. In the **Value data** box, edit the data and click **OK**.

Using Variable Data Types in Registry Data

InstallShield enables you to use variable data types or properties when creating registry data for your installation project

TASK **To use INSTALLDIR (the default installation directory) as a variable in the registry:**

1. Open the **Application Registry** page of the **Project Assistant**.
2. Select **Yes** to indicate that you want to configure the registry data that your application will install.
3. Right-click **HKEY_CLASSES_ROOT**, point to **New**, and click **Key**.
4. Name the key `Installation Location`.
5. Right-click the **Installation Location** key, point to **New**, and click **String Value**.
6. Name the string value `My Installation Location`.
7. In the **Destination computer's registry data** box, double-click the **My Installation Location** value. The **Edit Data** dialog box opens.
8. In the **Value Data** box, type the following:

   ```
   [INSTALLDIR]
   ```

At run time, the value of **[INSTALLDIR]** is replaced with the installation directory.

Importing Registry Data from a .reg File

TASK **To import registry data from a .reg file:**

1. Open the **Application Registry** page of the **Project Assistant**.
2. In the **More Options** section, click **Import a .reg file**. The **Import REG File Wizard** opens.
3. Follow the directions in the Import REG File Wizard to add the registry data.

NOTE *When you add registry data to a feature, it is installed on the target system as long as the associated feature is installed.*

InstallShield can import .reg files created by exporting in Regedit only, or files that follow that exact format. Additionally, InstallShield does not support multiline registry values.

Creating an Application Path Registry Key

The application path registry key contains data that Windows uses as a private search path for the specified application's .dll files. If you install an application's .dll files into a directory other than the application's directory, you should set the appropriate application path to include the .dll directory during installation. Application path information is stored in the registry under HKLM\Software\Microsoft\Windows\CurrentVersion\App Paths\AppName.exe.

TASK **To create an application path registry key:**

1. Open the **Application Registry** page of the **Project Assistant**.
2. In the **More Options** section, click **Create an application path**. The **Create an Application Path** dialog box opens.
3. Click the ellipsis button (**...**). The **Browse for Shortcut Target** dialog box opens.
4. Select the executable (.exe) file in your installation for which you want to create an application path.
5. Click **Open**. The directory for the .exe file is added to the list of directories.
6. Click **Add**. The **Browse for Directory** dialog box opens.
7. Select the directory that contains the .dll files.
8. Click **OK**.

Specifying End-User Dialogs for Your Installation

The Installation Interview page lets you specify the dialogs that you want end users to see when your installation program runs. Based on your answers to the questions on this page, the Project Assistant adds the corresponding dialog to your installation project.

The questions that are displayed to help you specify dialogs for your installation are as follows:

- Do you want to display a License Agreement Dialog?—Select Yes and click the Browse button to select your license agreement file.
- Do you want to prompt users to enter their user information?—Select Yes to display a dialog requesting this information.
- Do you want your users to be prompted to modify the installation location of your application?—Select Yes to present a dialog that lets end users change the installation location. See Enabling End Users to Modify the Installation Location for more information.
- Do you want to give users the option to launch your application when the installation completes?—Select Yes and click the Browse button to select your application file. When this option is set to Yes, the final dialog in the installation presents a check box that end users can select to immediately launch your application upon clicking the Finish button.
- Do you want to give users the option to launch a readme file when the installation completes?—Select Yes and click the Browse button to select the Readme file in your installation.

Enabling End Users to Modify the Installation Location

If you want to provide end users with control over where your software is installed on their system, you can enable them to modify the installation location.

In an InstallShield-based installation, the property **INSTALLDIR** serves as the default installation directory. When you let users modify the installation location, the Choose Destination Location dialog is presented during the installation.

License Agreements

To install your application, end users must agree to abide by certain legal requirements. For example, most software vendors do not allow users to copy or distribute their software to others.

To ensure that the end user understands the legal requirements associated with installing your software, your installation can present an End-User License Agreement

(EULA) in the License Agreement dialog during run time. The EULA is a legal contract between you and the end user, with regard to the use of your software.

The License Agreement dialog displays your license agreement text, and it contains Yes and No options. If end users select the No option because they do not agree to accept the EULA, your software is not installed and the installation terminates.

TASK **To add a License Agreement dialog to your project:**

1. Open the Installation Interview page of the **Project Assistant**.
2. For the **Do you want to display a License Agreement Dialog?** question, select **Yes**.
3. Type the path to your license agreement file or click the **Browse** button to find the file. The file must be a rich text file (.rtf).

Building Your Installation

The Build Installation page is where you build your installation.

TASK **To build your installation:**

1. Select the **Single Executable** check box.
2. Click **Build Installations**.

The Output window opens with the Output tab visible; it displays information about the progress of the build. The build is finished when the Output tab displays the log file information.

Build Release Location

The disk image folders for your installation are built in the release location. The release location is a subfolder of your project's location.

The release is built in the following folder:

*Project Location**Project Name*\Express\SingleImage\DiskImages\DISK1

For example, if the current project name is CoolProject, the release location might be:

```
C:\My InstallShield Express
   Projects\CoolProject\Express\SingleImage\DiskImages\DISK1
```

Build Logs and Reports

Each time you build an installation, a log and build report are generated. The log contains the same information displayed in the Output window during the build process. The build report contains a concise summary of your build, as well as a listing of all features and files included in your build. Since both the log and report are generated and timestamped each time you build the installation, you can use these for manual verification of the contents of installations, as well as for your records.

After Completing the Project Assistant: Next Steps

After going through the Project Assistant pages and completing the fields, you have an installation project framework that you can use as a functional installation. This section provides information to help you complete your installation.

Autorun

Sometimes when you insert software CDs into your computer's CD-ROM drive, a multimedia CD browser automatically launches, enabling you to easily install the software. This autorun functionality is accomplished using a text file (`Autorun.inf`) on the root level of the CD. Primarily, this file is used to launch either a CD Browser, such as those created with DemoShield, or an installation program.

Enabling Autorun for Your CD

TASK **To enable your CD to autorun when it is inserted into the target system's CD-ROM drive:**

1. Create a text file called `Autorun.inf` and place it on the root level of your CD-ROM.
2. In the `Autorun.inf` file, specify the name of the file to automatically launch on CD insertion. Use the following syntax:

   ```
   [autorun]
   open = filename
   ```

   `filename` is the name of the file you are launching. For example, if you are including `Setup.exe` in your installation, enter Setup.exe in the place of *`filename`*.

Testing Your Installation

Before you release your installation to end users, it is a good idea to put it through a few rigorous test runs. You can run your installation directly from InstallShield.

Running the installation executes your installation exactly as it would on an end user's machine. All files are transferred, registry entries are made, and the end-user interface is displayed.

TASK **To run your installation from within InstallShield, do one of the following:**

- Click the **Run** button on the toolbar.
- On the **Build** menu, click **Run SingleImage**.

TIP *Although you can run your installation from within InstallShield, it is also a good idea to test your installation on several clean machines before you release it.*

Distributing Your Installation

When your installation is built and tested, the only task left is to distribute it. You can post it on the Internet or an intranet, copy it to a network, or copy it to a CD or other media type.

Reference

Reference information for InstallShield is organized into the following categories:

- Menus and Toolbar
- Start Page
- Project Assistant
- Output Window
- Import REG File Wizard
- Dialog Boxes
- End-User Dialogs
- Errors and Warnings

Menus and Toolbar

Below are comprehensive listings of all InstallShield menu commands, keyboard shortcuts for the commands, and corresponding toolbar buttons.

Each of the menus in InstallShield is described in this section:

- File Menu
- Edit Menu

- View Menu
- Go Menu
- Build Menu
- Tools Menu
- Help Menu

File Menu

Below is a listing of the File menu commands, as well as associated keyboard shortcuts and icons.

Table 1-3: File Menu Commands

Command	Shortcut	Toolbar Button	Description
New	Ctrl + N		Creates a new installation project.
Open	Ctrl + O		Opens an existing installation project.
Close			Closes the current project.
Save	Ctrl + S		Saves the current project file.
Save As			Saves the current project file under a different name.
1, 2, 3, 4			Opens one of the most recently accessed projects.
Exit			Closes the current project and closes InstallShield.

Edit Menu

Below is a listing of the File menu commands, as well as associated keyboard shortcuts and icons.

Table 1-4: Edit Menu Commands

Command	Shortcut	Toolbar Button	Description
Undo	Ctrl + Z		Undoes the last action performed.
Cut	Ctrl + X		Cuts the currently selected text to the clipboard.
Copy	Ctrl + C		Copies the currently selected text to the clipboard.

Table 1-4: Edit Menu Commands (cont.)

Command	Shortcut	Toolbar Button	Description
Paste	Ctrl + V		Pastes the clipboard contents.

View Menu

Below is a listing of the View menu commands.

Table 1-5: View Menu Commands

Command	Description
Output Window	Toggles the display of the Output window.
Header Bar	Toggles the header bar.
Toolbar	Toggles the toolbar.
Status Bar	Toggles the status bar.

Go Menu

Below is a listing of the Go menu commands, as well as associated keyboard shortcuts and icons.

Table 1-6: Go Menu Commands

Command	Shortcut	Toolbar Button	Description
Previous View	Alt + Up Arrow		Takes you to the view that is listed directly above the current view on the Go menu.
Next View	Alt + Down Arrow		Takes you to the view that is listed directly below the current view on the Go menu.
Back	Alt + Left Arrow		Takes you to the view that you last visited in the history of your view selections. You can use this multiple times, as long as there are multiple entries in your view history.
Forward	Alt + Right Arrow		Takes you to the next view in the history of your view selections. You can continue until you reach the view you were at when you first clicked Back.
Start Page			Takes you to the Start Page.
Help			Takes you to the Help view.

Table 1-6: Go Menu Commands (cont.)

Command	Shortcut	Toolbar Button	Description
Project Assistant			Displays the Project Assistant.

Build Menu

Below is a listing of the Build menu commands, as well as associated keyboard shortcuts and icons.

Table 1-7: Build Menu Commands

Command	Shortcut	Toolbar Button	Description
Build SingleImage	F7		Builds your release.
Stop Build	Ctrl + Break		Cancels the current build process.
Run SingleImage	Ctrl + F5		Enables you to run your completed installation without leaving InstallShield.
Uninstall SingleImage			Uninstalls the most recently run release.

Tools Menu

Below is a listing of the Tools menu commands, as well as associated icons.

Table 1-8: Tools Menu Commands

Command	Toolbar Button	Description
Open Release Folder		Launches Windows Explorer, and opens the release folder.
Check for Updates		Launches the Update Service dialog box if the product is registered with the Update Service.
Customize		Displays the Customize dialog box.
Options		Displays the Options dialog box.

Help Menu

Below is a listing of the Help menu commands.

Table 1-9: Help Menu Commands

Command	Description
Contents	Displays the Contents tab of the InstallShield Help Library.
Index	Displays the Index tab of the InstallShield Help Library.
Search	Displays the Search tab of the InstallShield Help Library.
Support Central	Displays the InstallShield Support Central on the Web.
InstallShield Community	Displays the InstallShield Community on the Web.
Release Notes	Displays InstallShield release notes.
Feedback	Connects to the Macrovision Web site to enable you to provide feedback.
Macrovision on the Web	Connects to the Macrovision Web site.
About InstallShield	Displays the About InstallShield dialog box, where you can find version information and register InstallShield.

Start Page

The InstallShield Start Page provides quick access to product information, to recently opened projects, and to InstallShield resources.

Project Tasks

Click a project task to quickly create a new project, open an existing project, or browse to one of the sample projects included with the InstallShield installation.

Help Topics

Frequently accessed help topics are listed in this section. To access the entire InstallShield Help Library from the Start Page, press F1 or click the Help Library link in the Resources section.

(Recently Opened Projects)

The section in the middle of the Start Page lists your most recently accessed projects and the dates on which they were last modified.

Beneath the project list are links to the top Knowledge Base articles and information on upcoming InstallShield training courses and seminars.

Resources

The Resources section contains a number of links to connect you to helpful InstallShield information and Macrovision's responsive customer support.

Contact Us

To provide feedback about InstallShield or join our Customer Experience Improvement Program, click one of the links listed here.

Project Assistant

InstallShield includes a Project Assistant to help you quickly and easily build a basic installation project. The Project Assistant provides a framework of installation project tasks to guide you through the project creation process and provides pertinent information along the way.

When you create a new installation project, the Project Assistant view automatically opens. Information that you enter in the Project Assistant is saved directly to the underlying project file.

The following topics provide information to help you start creating your installation through the Project Assistant:

- Specifying General Application Information
- Specifying Operating System Requirements for Your Application
- Specifying the Features for Your Application
- Specifying Application Files for Your Installation
- Defining Your Application Shortcuts
- Updating the Registry
- Specifying End-User Dialogs for Your Installation
- Building Your Installation
- After Completing the Project Assistant: Next Steps

Output Window

The Output window opens across the bottom of InstallShield when you build your project. It also provides information about your project during project conversion. The following tabs appear in the Output window:

Table 1-10: Tabs on the Output Window

Tab	Description
Output	Stores distribution output information and displays build output; a link to the log file saved as a text file will be active.
Tasks	Provides descriptions of any errors and warnings that occur when you build your project; each error or warning code displayed will link to an article in the Knowledge Base.

Import REG File Wizard

The Import REG File Wizard enables you to import existing registry data (.reg) into your InstallShield project. This registry data is added to the target system's registry during the installation.

The following panels are associated with the Import REG File Wizard:

- Welcome
- Import Registry File
- Import Conflict Options
- Import Progress

Welcome Panel

The Import REG File Wizard enables you to import existing registry data (.reg) into your InstallShield project. This registry data is added to the target system's registry during the installation.

Click Next to begin importing your .reg file.

NOTE *InstallShield can import .reg files created by exporting in Regedit only, or files that follow that exact format. Additionally, InstallShield does not support multiline registry values.*

Import Registry File Panel

In the Import Registry File panel, you can specify the .reg file that you want to import.

Table 1-11: Settings on the Import Registry File Panel

Property	Description
Registry File	Enter the path to the .reg file you want to import, or click the Browse button to navigate to this file.  *InstallShield can import .reg files created by exporting in Regedit only, or files that follow that exact format. Additionally, InstallShield does not support multiline registry values.*

Import Conflict Options Panel

Because your installation may already contain registry data that could conflict with information stored within the .reg file you are importing, you can select how you want to handle any conflicts.

Table 1-12: Settings on the Import Conflict Options Panel

Property	Description
Overwrite the registry data	Select this option if you want data stored within the .reg file you are importing to overwrite any conflicting data already present in your installation project.
Do not overwrite the registry data	Select this option if you want to retain the data already present in your installation project when a conflict arises during the import progress. All nonconflicting registry data are still imported.

Import Progress Panel

The Import Progress panel displays the import progress of the .reg file. Click Cancel to stop the import or wait until the wizard finishes importing your .reg file and click Finish to return to InstallShield.

Dialog Boxes

Each of the dialog boxes available in InstallShield is described in this section:

- Additional Properties
- Create Application Path
- Digitally Sign Setup

- Edit Data File Properties
- File Properties
- Folder Properties
- New Project
- Options
- Properties
- Save As
- Set INSTALLDIR

Additional Properties Dialog Box

Use the Additional Properties dialog box to set properties such as the product GUID, your company's support Web address, and your company's support telephone number.

Table 1-13: Options on the Additional Properties Dialog Box

Option	Description
Specify your company's support web address	Type the uniform resource locator (URL) that you would like your users to visit for technical support. This URL is displayed as a hyperlink in the Support Information dialog of Add or Remove Programs in Control Panel.
Specify your company's support telephone number	Type the technical support phone number that your users can call to get help with your product. This information is displayed in the Support Information dialog of Add or Remove Programs in Control Panel.
Specify your application product GUID	This box contains a string GUID that uniquely identifies this product release. Since the product GUID uniquely identifies this release, changing the product code after you have already distributed your release is not recommended. The product code GUID should be uniquely generated for each version of your product. Click the Generate New Product GUID button to use a new GUID for your product code.

Create Application Path Dialog Box

If you install an application's .dll files into a directory other than the application's directory, use the Create Application Path dialog box to set the appropriate application path to include the .dll directory during installation. The application path registry key

contains data that Windows uses as a private search path for the specified application's .dll files.

Table 1-14: Options on the Create Application Path Dialog Box

Option	Description
Select the .exe file that you want to create an App for, or type in the name of the .exe file.	Type the name of the executable (.exe) file in your installation for which you want to create an application path, or click the ellipsis button (...) to browse to find the file.
Add the directories containing your .dll files using the Add button	This box contains a list of one or more directories that contains the .dll files for your project. Click the Add button to add a directory to this list.

Digitally Sign Setup Data Dialog Box

The Digitally Sign Setup dialog box is displayed when you click Digitally Sign Setup on the Build Installation page of the Project Assistant. This dialog box enables you to assure your end users that the code within your application has not been modified or corrupted since publication.

When building a release on a Windows 2000 machine, SP4 must be installed in order for you to digitally sign the application.

Dialog Box Options

Digitally sign setup.exe

Select the **Digitally sign setup.exe** check box to digitally sign `Setup.exe`.

The other boxes on this dialog box are enabled when you select the **Digitally sign setup.exe** option.

Certificate Url

Type a fully qualified URL—for example, **http://www.macrovision.com**. This URL is used in your digital certificate to link to a location that you would like end users to visit in order to learn more about your product, organization, or company.

Software Publishing Credentials File

Specify the location of your .spc file provided by a certification authority. You can type the path to the file in this box or click the folder button to browse to the file location.

Corresponding Private Key File

Specify the location of your private key (.pvk) file provided by a certification authority. You can type the path to the file in this box or click the folder button to browse to the file location.

Password

If you would like to pass the password for the .pvk file to `ISCmdBld.exe` to digitally sign your application while building the release from the command line, type the password in this box. InstallShield encrypts this password and stores it in your project (.ise) file.

If you do not specify a password in this box but you are digitally signing the release while building it from the command line, you will need to manually enter the password when you are prompted each time you build the release from the command line.

Edit Data Dialog Box

The Edit Data dialog box enables you to edit the registry data within your installation project. To launch this dialog box, right-click a value on the Application Registry page and select Modify.

Table 1-15: Options on the Edit Data Dialog Box

Option	Description
Value Name	The value name is read-only in this dialog box. To change the name of a value, close this dialog box, select the value you want to rename, and press F2.
Value Data	Type the data for this registry value as you want it to appear on the target machine.

File Properties Dialog Box

The File Properties dialog box lets you specify the properties for a file when it is installed onto the target system. To launch this dialog box, right-click a file on the Application Files page and select Properties.

Table 1-16: Options on the File Properties Dialog Box

Option	Description
Location	This box specifies the file directory.
Size	This box tells you the size of the file in bytes.

Table 1-16: Options on the File Properties Dialog Box (cont.)

Option	Description
Version	This box is the version string for a versioned file. This box is blank for non-versioned files.
Override system attributes	Clear this check box to install this file using the same system properties that are currently set for this file on the development system. Select this check box to override any of the following properties: • **Read-only**—Select the check box for this property if you want the file to be read-only when it is installed. • **System**—Select the check box for this property if you want the file to be installed as a system file. • **Hidden**—Select the check box for this property if you want the file to be hidden when it is installed.
Self Register	If the file supports self-registration, you can select this check box. Clear this check box if you do not want the selected file to be registered on the target machine.
Permanent	Select this check box if you want this file to permanently remain on the target system. Permanent files are not removed during an uninstallation.
Shared	Select this check box to instruct the Compact installer to reference count, or "refcount," this file. When a file is marked as shared, the installer creates a refcount if one does not exist or increments it if it does. The refcount is stored under the following registry key: HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\SharedDLLs This count is decremented when the file is uninstalled.
Always Overwrite	If you select this check box, the file—if it exists on the target system—is always overwritten, regardless of the file version. Clear this check box (recommended) if you want standard versioning rules to be used: • **Versioned files**—In all cases, the file with the highest version is maintained, even if the file already on the target machine has a higher version than the one being installed. Additionally, a file of any version is maintained over unversioned files. • **File language**—All other things being equal, the file that is the same language as the installation is maintained over different language versions of the file. The only exception to this rule applies to multiple language files. Files with multiple languages are maintained over single language versions of a file. • **Date**—If the modified date of a file already present on the target machine is later than the creation date of that file, the file is not overwritten. This rule protects user preference files from being wiped out during an upgrade or reinstallation.

Folder Properties Dialog Box

Use the Properties dialog box to view the information about a folder that will be installed on the target machine. This dialog box is displayed when you right-click a folder on the Application Files page and then click Properties.

Type

Specifies the type of folder.

Location

Specifies the directory identifier for the selected folder, as well as the location to which the folder will be installed on the target machine.

Size

Specifies the size of the folder's contents.

Contains

Specifies the number of files and subfolders within the selected folder.

New Project Dialog Box

This dialog box is displayed when you create a new project in InstallShield. In the dialog box, you can select a project type, name your project, and provide a location for the project's files. Once you entered the necessary project information in the New Project dialog box and clicked OK, the Project Assistant is opens to help you create your project.

Table 1-17: Options on the New Project Dialog Box

Option	Description
Project Name	Type a name for your project in this field.
Project Language	With the Compact project, you can create your installation in English only. This means that all of the end-user dialogs shown during the installation process appear in English. Other languages are supported in other editions of InstallShield. For more information, visit http://www.macrovision.com.
Location	Type a location or click Browse to navigate to a project location. To change the default project location displayed, change the Project Location path, which is located on the File Locations tab of the Options dialog box.

Table 1-17: Options on the New Project Dialog Box (cont.)

Option	Description
Create the project in Project Name subfolder	Select this option if you want InstallShield to create a subfolder with your project's name in your Projects location.

Options Dialog Box

The Options dialog box enables you to specify preferences for creating projects and working in InstallShield.

TASK **To open the Options dialog box:**

On the **Tools** menu, click **Options**.

The Options dialog box is organized into multiple task-related tabs.

- General
- File Locations
- Preferences
- Quality
- Updates
- .NET (not applicable to Compact projects)
- Files ViewFile Extensions ViewConfigure Trialware (not applicable to Compact projects)
- Merge Module Options (not applicable to Compact projects)

Properties Dialog Box

The Properties dialog box enables you to set several properties that determine if and how a feature or subfeature is listed in the Select Features end user dialog. It also lets you set any operating system requirements for a feature or subfeature.

NOTE *You cannot create conditions for the Always Install feature.*

The Properties dialog box is organized into two tabs. Click one of the links to learn about the corresponding tab.

- General
- Operating System

General Tab

The General tab on the Properties dialog box is where you set several properties for a feature or subfeature in your installation.

NOTE *You cannot create conditions for the Always Install feature.*

Table 1-18: Options on the General Tab

Option	Description
Enter the description you want to display about the feature to your end user	Type the description that should be displayed when an end user clicks a feature in the Select Features dialog.
This Feature is Required to be installed	If you want to require that end users install this feature, select this check box; end users are not able to deselect this feature in the Select Features dialog, and the feature is installed. If you clear this check box, end users have the ability to select or deselect this feature for installation.
Make this feature Visible to the end user	If you want the feature to be listed in the Select Features dialog, select this check box. If you clear this check box, the feature is not listed in the Select Features dialog. Although the end user cannot choose whether to install an invisible feature, this property has no effect on whether the feature is installed.

Operating System Tab

You may need to install a different version of a feature depending on the operating system of the target system. With the Operating System tab on the Properties dialog box, you can specify for which operating systems a feature is intended.

Select the All Operating Systems check box if the feature can be installed to supported platform. This check box is selected by default. Clear this check box to select the specific operating systems that the feature targets.

NOTE *You cannot create conditions for the Always Install feature.*

How InstallShield Creates the Operating System Feature Conditions

When you select specific operating systems, you are essentially excluding operating systems that do not support the feature.

For example, if you select only the check box for the latest Windows operating system, InstallShield creates a feature condition to exclude the operating systems that you did not select. With this type of feature condition, future versions of Windows operating systems are supported automatically because they are not excluded in the feature condition.

If you select each of Windows 9x check boxes, the feature condition that InstallShield creates excludes all Windows NT operating systems. In this scenario, any future Windows NT operating systems are not supported, but all future Windows 9x operating systems are supported.

Save As Dialog Box

On the File menu, click Save As to open the Save As dialog box. This lets you save a copy of the open project as a new project with a different name and location.

File Name

Type the name of the file in this box.

Save as type

This list enables you to specify the type of file you are saving.

Set INSTALLDIR Dialog Box

Use the Set INSTALLDIR dialog box to browse to a directory, create a new directory, rename a directory, or delete a directory. When you click OK, the default installation directory is set to the selected directory.

Destination Directories

This box lists all of the currently available destination directories. You can select, create, rename, or delete directories in this box.

Specifying a Default Installation Directory

TASK **To specify a default installation directory:**

1. Click a directory to select it.
2. Click **OK**.

Creating a New Directory

TASK **To create a new directory:**

1. In the **Destination Directories** box, select a directory or **Destination Computer**, and press INSERT. A directory is created beneath the selected item.
2. Type the directory name.

Renaming a Directory

TASK **To rename a directory:**

1. Select a directory or **Destination Computer** and press F2, or right-click and select **Rename**.
2. Type the new directory name. Note that you cannot rename predefined directories.

Deleting a Directory

TASK **To delete a directory:**

Select a directory and press DELETE, or right-click and click **Delete**. Note that you cannot delete predefined directories.

NOTE *When you delete a directory, any subdirectories beneath the selected directory are also deleted.*

End-User Dialogs

This section serves as a reference to all end-user dialogs available for your installation. The following topics are covered:

- Welcome Dialog

Welcome Dialog

The Welcome dialog is the first dialog displayed when your installation is launched. This dialog serves two purposes: the first is to let users know that your installation is running. To achieve this, the company name that you enter on the Application Information page is displayed with a welcome message. The second purpose of the Welcome dialog is to display copyright information for your installation.

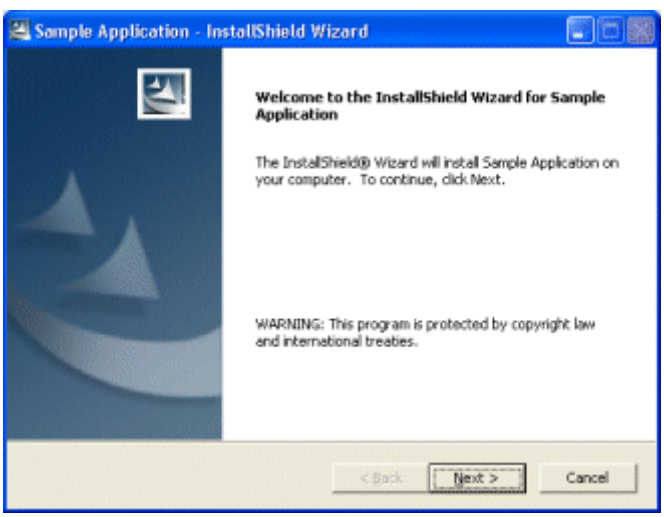

Figure 1-1: Example of a Welcome Dialog

License Agreement Dialog

The License Agreement dialog displays your end-user license agreement (EULA). When this dialog is displayed, a user must accept your license agreement before continuing with the installation.

Although the License Agreement dialog is not required, it is selected by default. The Installation Interview page is where you specify whether this end-user dialog should be included in your installation. It is also where you identify the path to your license agreement file, which must be a rich text file (.rtf).

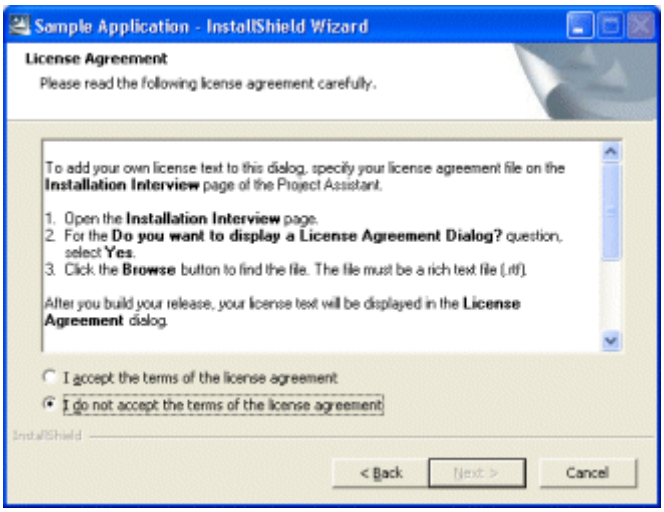

Figure 1-2: Example of a License Agreement Dialog

Customer Information Dialog

The Customer Information dialog enables you to gather information such as user name and company name from your users.

Although the Customer Information dialog is not required, it is selected by default. The Installation Interview page is where you specify whether this end-user dialog should be included in your installation.

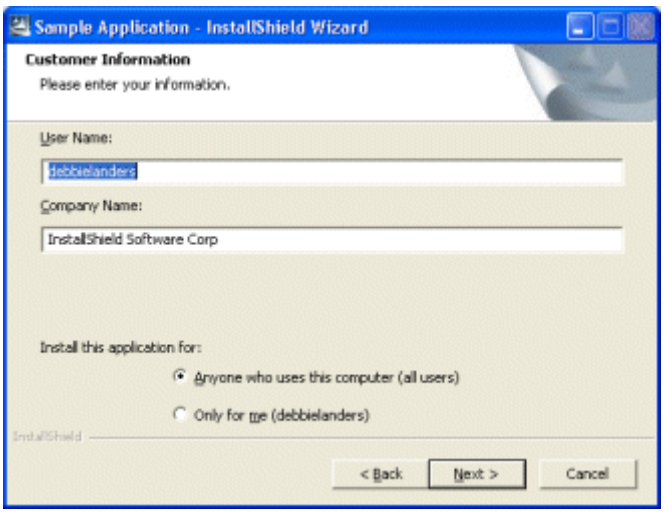

Figure 1-3: Example of a Customer Information Dialog

Choose Destination Location Dialog

The Choose Destination Location dialog displays the target destination for your installation and can provide functionality for changing that location.

The Choose Destination Location dialog is optional and is not selected by default. The Installation Interview page is where you specify whether this end-user dialog should be included in your installation.

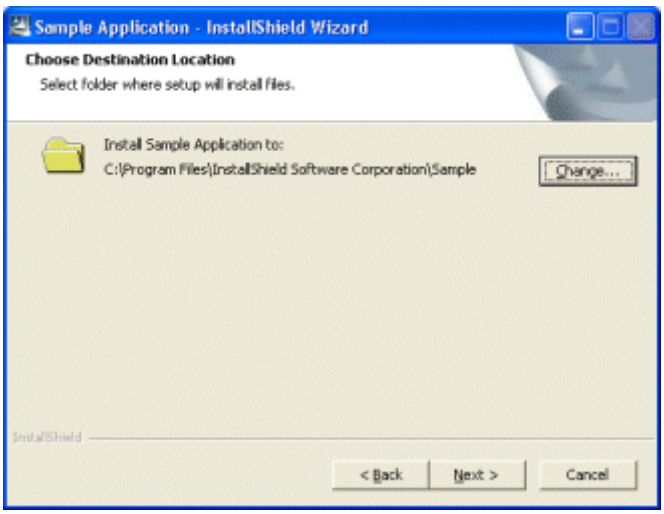

Figure 1-4: Example of a Choose Destination Location Dialog

Select Features Dialog

The Select Features dialog is displayed to enable users to choose which features they want to install. This dialog is displayed if you have more than one feature in your installation and at least one of the features (not including the Always Install Feature) meets all of the following criteria:

- The feature is set to be visible to the end user.
- The feature is not required to be installed.
- The operating system of the target machine meets any operating system requirements that have been set for that feature.
- To set whether a feature is listed in the Select Features dialog, and to specify the description associated with a feature, see Specifying the Features for Your Application.

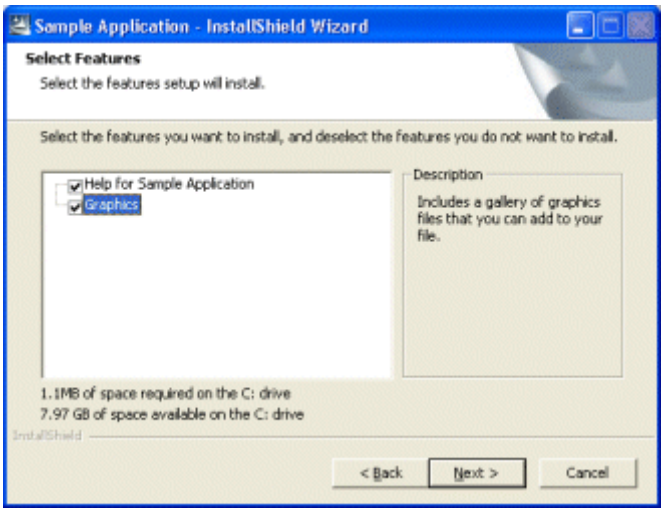

Figure 1-5: Example of a Select Features Dialog

Ready to Install Dialog

The Ready to Install dialog is the last dialog that occurs before file transfer takes place. Therefore, it is the end user's last chance to change installation options or cancel before the InstallShield Wizard begins modifying the system.

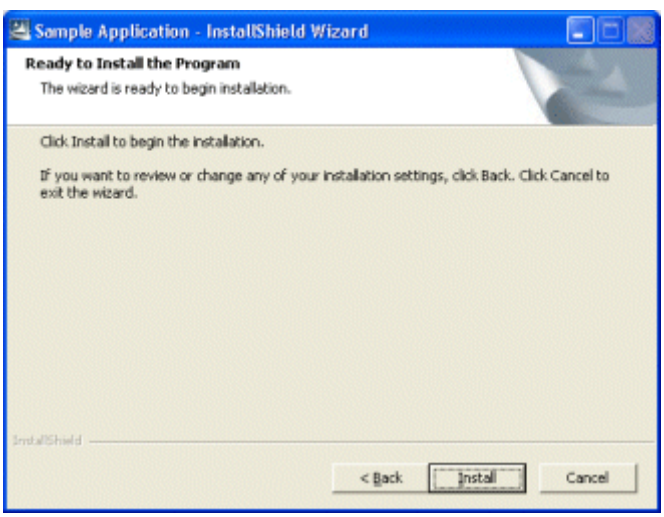

Figure 1-6: Example of a Ready to Install Dialog

Setup Status Dialog

The Setup Status dialog displays all of the actions—such as file transfer—taking place during your installation.

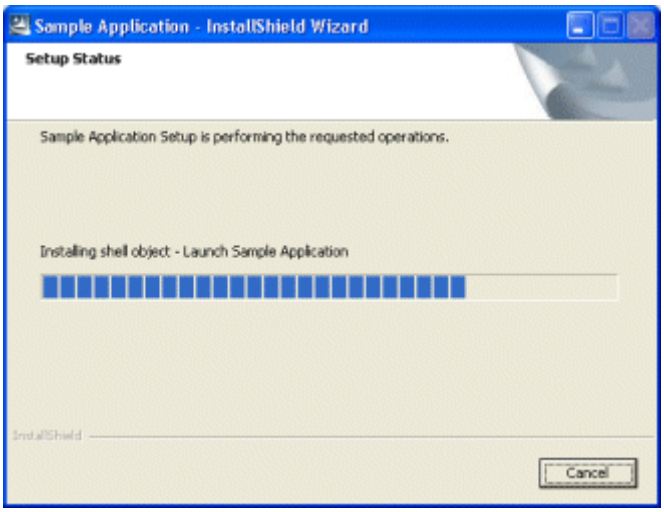

Figure 1-7: Example of a Setup Status Dialog

Setup Complete Success Dialog

When your installation successfully executes, it displays the Setup Complete Success dialog. This dialog informs your users of a successful installation. It also gives them the opportunity to launch your application or your readme file, if you specified in your project that these options should be included. This dialog is required.

The Installation Interview page is where you specify whether this end-user dialog should include the options for launching your application and/or your readme file.

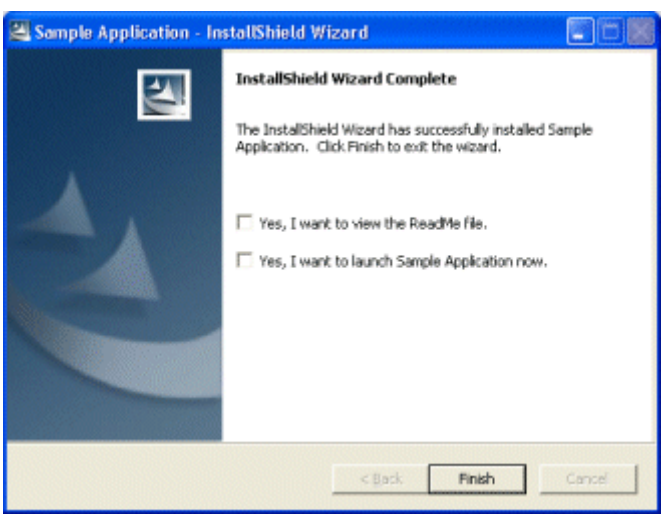

Figure 1-8: Example of a Setup Complete Success Dialog

Errors and Warnings

This section contains information about errors you may encounter during the build process or while running the installation. Also included are tips on how to eliminate the errors.

Build Errors and Warnings

The table below provides troubleshooting tips for each build error and warning. Note that `%s` is the string place holder, and `%x` is the number place holder formatting the number in hexadecimal.

Table 1-19: Build Errors and Warnings

Error	Description	Troubleshooting Tips
-32000	Build canceled by the user	This error occurs only when the build is terminated during the build process.
-20008	Unable to perform build. Inadequate space on %s drive	For a project to build successfully, sufficient free disk space (about twice the size of all files in the installation project) is required. However, the `Setup.exe` file for you project could not be built because the build machine does not have enough disk space. To resolve this error, try freeing up disk space on the build machine. For specific steps on how to free up disk space and clean the temporary directory, see Consumer Central articles How Do I Increase Hard Disk Space on My Computer? and Clean the Temp Directory.
-20007	Failed to stream %s into the media (setup.exe).	For a project to build successfully, sufficient free disk space (about twice the size of all files in the installation project) is required. However, the `Setup.exe` file for you project could not be built because the build machine does not have enough disk space. To resolve this error, try freeing up disk space on the build machine. For specific steps on how to free up disk space and clean the temporary directory, see Consumer Central articles How Do I Increase Hard Disk Space on My Computer? and Clean the Temp Directory.
-20006	Failed to seek to end of setup stub.	This error occurs if the build failed to seek to the end of the installation stub, a necessary first step in packing the headers and .cab files into `Setup.exe`.

Table 1-19: Build Errors and Warnings (cont.)

Error	Description	Troubleshooting Tips
-20005	Failed to open the installation stub.	This error occurs if the build failed to open `SetupCE.exe` and thus was not able to pack the headers and .cab files into `Setup.exe`. If the `SetupCE.exe` file is read-only, this error occurs. To resolve this error: 1. Using Windows Explorer, find the `SetupCE.exe` file. It is in the following location: *`InstallShield Program Folder`*`\Redist\Language Independent\i386` 2. Right-click the `SetupCE.exe` file and select Properties. 3. Clear the Read-only check box.
-20004	Required engine file SetupCE.exe is missing.	The engine file SetupCE.exe is missing from *InstallShield Program Folder*\Redist\Language Independent\i386. To restore this file to the proper location, try to repair InstallShield: In Add or Remove Programs in the Control Panel, select the InstallShield application, and then click Change. The InstallShield Wizard opens; use this wizard to perform a repair of InstallShield.
-20003	Failed to create file %s. Last Error: %x	This error may occur when the headers (header.xml or fActions.xml) are being created. To resolve this error, ensure that you have write permission to the project location. The default project location is the My InstallShield Express Projects folder at the root level of your hard drive; for example, `C:\My InstallShield Express Projects`.
-20002	Exception %x occurred. Exception Message: %s	An exception occurred while headers (header.xml or fActions.xml) were being generated. This error can occur for many reasons. To resolve this error, try to rebuild the installation. If this error still occurs, try restarting InstallShield. If the problem persists, try to repair InstallShield: In Add or Remove Programs in the Control Panel, select the InstallShield application, and then click Change. The InstallShield Wizard opens; use this wizard to perform a repair of InstallShield.

Table 1-19: Build Errors and Warnings (cont.)

Error	Description	Troubleshooting Tips
-20001	A file included in the build is not found. File: %s	File not found error. The error message lists the name of the file that was missing. This error occurs during a build if any of the files being packed into the installation media is missing on the system. It also occurs if any file that goes into the Res.cab file—such as Eula.rtf or _isresce.dll—is missing. The _isresce.dll file is stored in *InstallShield Program Folder*\Redist\0409\i386. To resolve this error: • If `_isresce.dll` is missing, try to repair InstallShield: In Add or Remove Programs in the Control Panel, select the InstallShield application, and then click Change. The InstallShield Wizard opens; use this wizard to perform a repair of InstallShield. • If `Eula.rtf` is missing, open the Installation Interview page and note the path indicated for the EULA file. Use Windows Explorer to verify that the EULA file is in the specified location. • If a different file is missing, open the Application Files page. Ensure that all of the files included are in the locations specified.
-1014	Cannot rename a directory.	Windows Explorer or a DOS prompt may be pointing to a subfolder of the release output folder (Disk1) or to the Interm folder, locking it. Change the current directory. Close any open files in the Disk1 folder.
-1013	The specified file is being used by another program.	Close the application that is currently using the file and rerun the build process.
-1009	Insufficient disk space or the target drive cannot be located.	Increase disk space on the build target, or select a new target for the build. If the target drive cannot be located, select a new target, or ensure permissions are set correctly for the target drive.

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