![Apple logo]

About Xcode Developer Tools
Compatibility and Installation

**Xcode 2.5 Developer Tools for
Mac OS X v10.4 (Tiger) and Mac OS X v 10.5 (Leopard)**

Contents

Introduction

The Xcode 2.5 developer tools distribution includes everything you need to develop software for Mac OS X, including the Xcode IDE, programming tools, system API documentation, Mac OS X interfaces, libraries, and example source code. For the latest information and updates to Xcode, documentation, code samples, and technical notes, please visit the Apple Developer Connection's Mac OS X tools pages at `http://developer.apple.com/tools/`.

We encourage developers to join the Apple Developer Connection, which provides the most convenient access to Mac OS X development resources, including technical support and pre-release software. For information visit `http://developer.apple.com/`.

Compatibility with Mac OS X Versions

The Xcode 2.5 developer tools will run on Mac OS X v10.4 (Tiger) and Mac OS X v10.5 (Leopard). It will not install or run on earlier versions of Mac OS X.

When hosted on Mac OS X v 10.4 (Tiger) using Mac OS X SDK support, Xcode supports development for:
 • Mac OS X v10.2 (Jaguar)
 • Mac OS X v10.3 (Panther)
 • Mac OS X v10.4 (Tiger), including universal binaries for Power PC and Intel.

When hosted on Mac OS X v 10.5 (Leopard) using Mac OS X SDK support, Xcode supports development for:
 • Mac OS X v10.3 (Panther)
 • Mac OS X v10.4 (Tiger), including universal binaries for Power PC and Intel.

What's New

The Xcode developer tools 2.5 release is the first release of Xcode to support the new Mac OS X 10.5 (Leopard) feature known as co-existence. This Leopard-only feature allows more than one version of Xcode to be installed on a single Mac OS X system, and to allow the Xcode developer tools to be installed

in locations other than the default of `/Developer`.

Xcode 2.5 is specifically designed to run both on Mac OS X 10.4 (Tiger) and Mac OS X 10.5 (Leopard), and is otherwise version similar to previous Xcode 2.x releases for Tiger. The co-existence features of Xcode 2.5 will only work on Leopard; Xcode 2.5 should be the only version of Xcode installed on a Tiger-based system and should be located in the `/Developer` folder when installed on Tiger.

Xcode Installing on Mac OS X 10.4 and 10.5

On Tiger, the Xcode developer tools are installed into `/Developer`, and renaming or moving the folder is not supported.

When installing on Leopard, the default location for the Xcode 2.5 developer tools is `/Xcode2.5`, however, you may install the Xcode 2.5 developer tools on any other directory or volume, including external drives. The Xcode directory can also be named something other than "Xcode2.5", and the entire Xcode directory can be moved after installation. The only restriction is that the folder hierarchy, inside the Xcode directory, cannot be changed.

Throughout this document, `<Xcode directory>` will be used to denote the path to the location of the tools selected on install.

NOTE: Now that developer frameworks and libraries are laid down inside the movable Xcode directory (on Leopard) it is not possible to relocate or copy applications from the `<Xcode directory>/Applications` hierarchy since the developer frameworks they depend on will not be found. If you need to refer to a developer application from a different directory, it is best to use an alias or symlink.

This allows multiple versions of the Xcode developer tools to be installed on the same system, but running independently. The Xcode IDE will use the SDKs, build tools, and auxiliary applications from the Xcode directory it is launched from whenever possible, rather than those from the root system.

The Xcode 2.5 developer tools installer also installs the standard system development tools and interfaces into `/usr` on 10.4, so conventional makefile- and config-based builds will operate correctly.

To support these changes there has been a re-structuring of the Xcode developer folder to move the Xcode developer tools content out of the underlying system and into a single top-level folder. Some of the more noticeable changes are listed below:

- The Xcode directory now has a `usr` subdirectory that includes all command line developer content. For example, now xcodebuild is found at `<Xcode directory>/usr/bin/xcodebuild`, where previously it was located at `/usr/bin/xcodebuild`. Similarly, developer man pages, libraries, and other files can be found in the appropriate locations under `<Xcode directory>/usr`. In order to continue to support a UNIX model of developer tools being found in the system, this content is also installed into the boot volume. System headers and libraries are also provided for those projects that have not migrated to using SDKs.

- Previously, supporting files for Xcode and other developer applications were located in `/Library/ Application Support/Apple/Developer Tools`. Now this content is located in `<Xcode directory>/Library`, and each application has its own folder (so Xcode support files can be found at `<Xcode directory>/Library/Xcode`). In addition, we also support finding support files outside the Xcode directory at `/Library/Application Support/Developer/<tools version>` for support files needed for a specific version of the tools (`/Library/Application Support/ Developer/2.5` for the Xcode 2.5 developer tools) and `/Library/Application Support/ Developer/Shared` for support files that are not specific to a given version of the developer tools. We encourage users to place additional support files (like custom file or project templates) inside the `<Xcode directory>/Library` hierarchy to allow the support files to move with the folder instead of being tied to the underlying system.

The Xcode 2.5 developer tools contain co-existence bug fixes, and minimal changes in the following areas:
GCC4
GDB
Linker

SDKs
Xcode

The Xcode 2.5 developer tools also contain CHUD 4.5.0 and updated documentation.

Given the changes to how documentation is packaged in the Xcode 3.0 developers. we do not expect to provide any Xcode 3.0 developer tools or Mac OS X 10.5 documentation updates in the older Xcode 2.5 developer tools documentation format. You will need to use the Xcode 3.0 developer tools to access that content.

Please see the Xcode Release Notes from Xcode's Help menu for up-to-date information on changes in Xcode 2.5.

Installing Xcode

The XcodeTools 2.5 installer has been updated to allow for simple installation of the Xcode 2.5 developer tools on both Tiger and Leopard. With this reorganization, users are encouraged to not install content from the individual packages, but use the XcodeTools.pkg instead.

The XcodeTools 2.5 installer for Tiger has the following choices:

- Xcode IDE and Tools - Xcode, Interface Builder, GCC 3.3, GCC 4.0.1 and other developer tools. Also installs the Mac OS X 10.3.9 and Mac OS X 10.4 (Universal) SDKs.
    - Developer Documentation - An Xcode documentation set consisting of Apple's Mac OS X and Developer Tools technical resources, including Guides, Reference, Release Notes, Sample Code, Technical Notes, and Technical Q&As.
    - Examples - Sample source code for developing software using Mac OS X.
    - Java Development - Support for developing Java 1.4 applications and applets.
        - Java Tools - Installs tools, templates, and examples for developing and deploying Java applications and applets.
        - Java Documentation - Reference documentation for Java 1.4.2 (including Apple Extensions). This package is not selected by default.
- CHUD Tools - Shark and other performance tools for measuring and optimizing software performance on Mac OS X, hardware bringup, and system benchmarking.
- Command Line Support - System content to allow command-line development from the boot volume. It breaks down into two choices:
    - Compiler & Tools - The GCC compiler and command line tools included with the core Xcode developer tools package installed into the boot volume. This package is provided for compatibility with shell scripts and makefiles that require access to the developer tools in specific system locations.
    - Mac OS X Headers & Libraries - Header files, libraries, and other resources for developing software using Mac OS X that are installed into the boot volume. This content is not necessary if using an SDK.
- Mac OS X 10.2.8 Support - Support for developing applications that target Mac OS X 10.2.8 APIs. This package is not selected by default.
- WebObjects - WebObjects development tools, examples, and documentation. This package is not selected by default.

NOTE: The following tools installed as part of a Xcode 2.5 developer tools install on Tiger are not expected to work properly on Leopard: CHUD Tools, OpenGL Profiler, other performance tools, and MacPython 2.3. When running on Leopard, you should use the corresponding tools in the Xcode 3.0 developer tools.

NOTE: If you upgrade a Tiger machine with the Xcode 2.x developer tools installed and then install the Xcode 2.5 developer tools (but not the Xcode 3.0 developer tools), you may end up with older 2.x content in /Developer. This leftover content can be safely deleted.

In general, the XcodeTools 2.5 installer on Leopard does not install content into the boot volume (except for GCC 3.3 and distributed build support). In addition, the Xcode 2.5 developer tools versions of performance tools (including CHUD Tools), Quartz Composer, WebObjects, are not supported on 10.5 (users should use the Xcode 3.0 developer tools for access to performance tools, Quartz Composer, and WebObjects on 10.5). The XcodeTools 2.5 installer for Leopard has the following choices:
- Xcode IDE and Tools - This Xcode IDE and supporting developer tools, installed into a location

chosen by the user (default is `/Xcode2.5` on the boot volume).
- Developer Tools Essentials - Xcode, Interface Builder, GCC 4.0.1 and other developer tools. Also installs the Mac OS X 10.4 (Universal) SDK.
- Developer Documentation - An Xcode documentation set consisting of Apple's Mac OS X and Developer Tools technical resources, including Guides, Reference, Release Notes, Sample Code, Technical Notes, and Technical Q&As.
- Examples - Sample source code for developing software using Mac OS X.
- Java Development - Support for developing Java 1.4 applications and applets.
  - Java Tools - Tools, templates, and examples for developing and deploying Java applications and applets.
  - Java Documentation - Reference documentation for Java 1.4.2 (including Apple Extensions). This package is not selected by default.
- Distributed Builds Engine - System support for using distributed builds with Xcode. This content is installed on the boot volume.
- Mac OS X 10.2.8 & 10.3.9 Support - Support for developing applications that target Mac OS X 10.2.8 and 10.3.9 APIs. Includes the Apple version of the GCC 3.3 compiler and the Mac OS X 10.2.8 & 10.3.9 SDKs. Note: GCC 3.3 is installed on the boot volume.

Step-by-Step Instructions
1. Boot into a partition with Mac OS X 10.4 (Tiger) or the Mac OS X 10.5 (Leopard) installed.

2. Mount the Xcode 2.5 developer tools disk image.

3. Double-click on XcodeTools.pkg.

4. Follow the instructions in the Installer. If you need to install the Java Documentation, Mac OS X 10.2.8 support (on Tiger), WebObjects (on Tiger) or Mac OS X 10.3.9 support (on Leopard), you must customize the default choices.

5. Authenticate as the administrative user. The first user you create when setting up Mac OS X has administrator privileges by default.

NOTE: Relocation of the Xcode developer tools is not supported on Tiger. Therefore, Xcode **must** be installed on the boot volume. The Installer prevents installation on any other partition, unless the system is running Leopard.

If you encounter any problems in installation, including not having enough disk space to do the installation, please refer to the "Troubleshooting" section below.

Once you have installed the Xcode developer tools, you can access the documentation by launching Xcode and choosing any of the items in the Help menu. Developer applications, such as Xcode and Interface Builder, are installed in `<Xcode directory>/Applications`.

Uninstalling Xcode 2.5 developer tools

Since multiple versions of the Xcode developer tools can coexist on your system on Mac OS X 10.5, the uninstall-devtools.pl script has been changed to only remove content installed into the Xcode directory. On Mac OS X 10.4.x, the uninstall-devtools script continues to remove all Xcode 2.5 developer tools content from the boot volume.

On Mac OS X 10.4.x, type the following in Terminal to remove the Xcode 2.5 developer tools:
```
$ sudo /Developer/Library/uninstall-devtools
```

On Mac OS X 10.5, type the following in Terminal to remove the Xcode 2.5 developer tools:
```
$ sudo <Xcode 2.5 directory>/Library/uninstall-devtools
```

NOTE: The uninstaller that ships with previous versions of Xcode developer tools will not clean everything off of your system properly. You should either use the one on the Xcode 2.5 DVD, or you should use the one installed when you installed the Xcode 2.5 developer tools.

NOTE: Running the uninstall script will uninstall any previous installations of Mac OS X Developer Tools or Xcode developer tools releases on Tiger systems. On Leopard systems, the uninstaller will only remove

the Xcode developer tools installed on the boot volume outside of the Xcode directory. To remove the remaining Xcode content, drag the Xcode directory to the trash.

Troubleshooting

If you have a small amount of disk space on your Tiger boot volume, you can set up a symbolic link for any part of the `/Developer` hierarchy. The installer will respect the symbolic link and install the files correctly. For more information on symbolic links, consult the `ln` man page.

In some configurations upgraded from Jaguar to Tiger, Project Builder IDE and Xcode IDE will both be available in the `/Developer/Applications` folder. Project Builder is not supported for use on Tiger.

Deprecation Notice

NOTE: As of the release of Xcode 2.4, the Cocoa Java bridge has been deprecated. This means that, while still supported with Xcode 2.5 (on Mac OS X v10.4), future releases of Xcode may not support the bridge or other dependent features. Due to this, the following additional WebObjects developer applications are also being deprecated:
>   EOModeler
>   EOModeler Plugin
>   WebObjects Builder
>   WebServices Assistant
>   RuleEditor
>   WOALauncher

This also means that the Xcode Java bridge templates have been deprecated, and should not be used for new Java bridge-based development.