

Oracle Solaris Studio 12.3 Release Notes

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System Requirements

The Oracle Solaris Studio 12.3 software can be installed on the Solaris 10 operating system or the Oracle Solaris 11 operating system on SPARC-based or x86-based platforms, or on the Linux operating system. The system requirements are as follows:

TABLE 1 System Requirements

	Solaris OS on SPARC-based systems	Solaris OS on x86-based systems	Linux OS	Desktop system OS
Operating system	Solaris 10 10/08 and subsequent Solaris 10 updates Solaris 11 and subsequent Solaris 11 updates	Solaris 10 10/08 and subsequent Solaris 10 updates Solaris 11 and subsequent Solaris 11 updates	Oracle Linux 5 and 6 Red Hat Enterprise Linux 5 and 6	Microsoft Windows XP Professional SP3, Microsoft Windows Vista SP1, Microsoft Windows 7 Professional, Ubuntu 9.10 or later Ubuntu update, Macintosh OS X 10.5 or later Macintosh OS X update (for installation of desktop distribution only)
CPU	SPARC-based systems SPARC64 platform-based systems	x86 64-bit platform based systems	x86 64-bit platform based systems	x86 64-bit platform based systems
Memory	Recommended: 3 GB Minimum: 1.5 GB (more may be needed for working with large projects in the IDE)	Recommended: 3 GB Minimum: 1.5 GB (more may be needed for working with large projects in the IDE)	Recommended: 3 GB Minimum: 1.5 GB (more may be needed for working with large projects in the IDE)	Recommended: 3 GB Minimum: 1.5 GB
Temporary disk space required by the installer	2 GB	2 GB	1.5 GB	N/A
Disk space required by the installed product	1.76 GB	1.52 GB	1.43 GB	365 KB
Swap space	Recommended: 2 to 4 GB Minimum: 1 GB	Recommended: 2 to 4 GB Minimum: 1 GB	Recommended: 2 to 4 GB Minimum: 1 GB	N/A

TABLE 1 System Requirements (Continued)

	Solaris OS on SPARC-based systems	Solaris OS on x86-based systems	Linux OS	Desktop system OS
Operating system configuration	Solaris 10: Entire Solaris Software Group Plus OEM Support, Entire Solaris Software Group, or Developer Solaris Software Group Solaris 11: For IPS installation, required packages are installed automatically. For tarfile installation, required packages are listed below ¹	Solaris 10: Entire Solaris Software Group Plus OEM Support, Entire Solaris Software Group, or Developer Solaris Software Group Solaris 11: For IPS installation, required packages are installed automatically. For tarfile installation, required packages are listed below ¹	Development/Libraries Package Group, including glibc.i686, glibc-devel, and glibc-devel.i686.	N/A

¹ /system/header, /developer/library/lint, /developer/base-developer-utilities, /developer/library/xprofile, /diagnostic/cpu-counters, /library/glib2, /library/libxml2, /library/unixodbc, /library/zlib, /runtime/perl-512, /shell/bash, /shell/ksh, /system/library, /system/library/c++-runtime, /system/library/math, /system/library/openmp, /system/linker, /system/picl

Java SE Development Kit (JDK) 6 Update 24 or later is required to run the IDE, dbxtool, DLight, the Code Analyzer, and the Performance Analyzer. If you plan to use these tools and do not have the required JDK, you can download the JDK from <http://www.oracle.com/technetwork/java/javase/downloads/index.html>.

To check or add swap space, see the instructions in [Appendix B, “Adding Swap Space,” in Oracle Solaris Studio 12.3 Installation Guide](#)

Disk Space Requirements

The following table shows the size of the installed Oracle Solaris Studio 12.3 software.

TABLE 2 Approximate Disk Space Requirements for Installed Components of Oracle Solaris Studio 12.3

If You Install These Components	Solaris OS on SPARC-based platforms	Solaris OS on x86-based platforms	Linux OS
All components	1.76 GB	1.52 GB	1.43 GB
C and C++ Compilers and Support Files	337.6 MB	338 MB	187.68 MB
IDE, dbx Debugger, and Support Files	284.34 MB	257 MB	286.7 MB
Performance Library, Fortran Compiler, and Support Files	580 MB	421.67 MB	433.4 MB

Solaris Operating System Patches

Operating system patches for Solaris 10 are provided for Oracle Solaris Studio 12.3 software. These patches are required for the proper operation of the compilers and tools in this release. The following required Solaris OS patches are included in this Oracle Solaris Studio 12.3 release. You can install these patches with the `install_patches.sh` utility that is included when you download the package installer. For more information, see *Oracle Solaris Studio 12.3 Installation Guide* at <http://www.oracle.com/technetwork/server-storage/solarisstudio/documentation/index.html>

TABLE 3 Required Solaris 10 OS Patches

Patch	SPARC-based systems Patch Number	x86-based systems Patch Number
SUNWlibc	119963-24	119964-24
libmtnsk	120753-10	120754-10
Assembler	118683-07	119961-10
Linker (Solaris 10 8/11 only)	147436-01	147437-01

Installation Information

This section describes known installation issues for this Oracle Solaris Studio 12.3 release.

Installing the Oracle Solaris Studio 12.3 Software

To install the Oracle Solaris Studio 12.3 software on a system running the Solaris 10 OS or a Linux OS that uses RPMs, you can use the Oracle Solaris Studio 12.3 package installer. The package installer requires that you have root privileges on the system where you are installing the software. Both the graphical user interface (GUI) installer and the non-GUI installer let you choose the installation directory and which components of the software you want to install. You can install the runtime libraries only by starting either the GUI or non-GUI installer with the `--libraries-only` option.

You can ask either the GUI installer or non-GUI installer to generate a zip file containing a distribution of the IDE (and the Code Analyzer, if you are installing it) that you can install on a desktop system.

For complete instructions on using the package installer on a Solaris 10 or Linux system, see the [Oracle Solaris Studio 12.3 Installation Guide](#)

To install the software on a system on which you do not have root privileges or on a system running a Linux OS that does not use RPMs, you can use the tarfile.

Uninstalling the Oracle Solaris Studio 12.3 Software

If you want to uninstall an installation of the Oracle Solaris Studio 12.2 software that was done with the package installer, use the provided uninstaller, rather than attempting to uninstall the software manually. The use of the uninstaller is described in Chapter 3 of the [Oracle Solaris Studio 12.3 Installation Guide](#). If you experience difficulties using the uninstaller, and cannot successfully uninstall the software using it, a safe procedure for uninstalling manually is described in Chapter 4 of the Installation Guide.

In some cases, the Oracle Solaris Studio packages might be correctly installed and the uninstaller is present in the installation directory, but the uninstaller fails because the `/root/.nbi` is corrupted. In this situation, you can force the uninstaller to remove the Oracle Solaris Studio packages and the installation directory by specifying the `--force-uninstall` when you start the uninstaller. For more information, see Chapter 4 of the Installation Guide.

Installation Directory

Software installed by the Oracle Solaris Studio 12.3 package installer is placed in the following locations:

Oracle Solaris Studio 12.3	<code>[/alternate_root]/installation_directory/solarisstudio12.3</code>
NetBeans 7.0.1 IDE and NetBeans C/C++ Plugin 7.0.1	<code>[/alternate_root]/installation_directory/lib/netbeans-7.0.1</code>

On Solaris platforms, the default installation directory is `/opt`. On Linux platforms, the default installation directory is `/opt/oracle`.

If you specified an alternate root directory, the full path to the actual installation directory is constructed by concatenating the alternate root path followed by the installation directory path.

For example:

- On a Solaris system, you specify an alternate root path of `/export/home/OSS12.3`, and do not override the default installation directory path `/opt`. The effective installation directory path is:

```
/export/home/OSS12.3/opt
```

- On a Solaris system, you specify the installation directory `/opt/myoss12.3/`, with no alternate root directory. This installation creates the following directory:

```
/opt/myoss12.3/solarisstudio12.3
```

- On a Linux system, you do not specify an installation directory (leaving the default `/opt/oracle`), nor an alternate root directory. This installation creates the following directory:

```
/opt/oracle/solarisstudio12.3
```

Restrictions on Multiple Oracle Solaris Studio Installations

You can have several installations of Oracle Solaris Studio software on the same system with the following restrictions:

- Each release (Oracle Solaris Studio 12.3 software, Oracle Solaris Studio 12.2 software, Sun Studio 12 Update 1 software, Sun Studio 12 software, Sun Studio 11 software, etc.) can be installed only once on a given system.
- You must install each release of Studio software in a different installation directory.
- If you have installed one or more components of Oracle Solaris Studio 12.3 software, any future installations of Oracle Solaris Studio 12.3 components will be installed in the same directory.

Installer Features Not Available on Linux Platforms

The following installer features are not available on Linux:

- Installation in zones
- Adding symbolic links to `/usr/bin` and `/usr/share/man`

Uninstalling Previous Versions of Studio Software

The Oracle Solaris Studio 12.3 installer does not remove previous versions of Studio software. For example, if you want to install the Oracle Solaris Studio 12.3 software in the same installation directory in which the Oracle Solaris Studio 12.2 software is installed, you must explicitly uninstall the Oracle Solaris Studio 12.2 software.

Effects of `/usr/bin` and `/usr/share/man` Symbolic Links, and Workarounds

When the installer creates symbolic links in the `/usr/bin` and `/usr/share/man` directories, it does not create links to certain binaries and man page sections. Here are the links that are not created and workarounds for accessing the unlinked binaries and man pages:

- man page sections unique to Studio software

Symbolic links to `/usr/share/man/man3c++/*` are not created. The man pages displayed for the sections in this directory do not contain up-to-date information. The man command does not by default search the following Oracle Solaris Studio 12.3 man page sections:

```
man3cc4
man3f
man3p
man3pi
man3x
```

To see an up-to-date man page in any of these sections, use `-s` option of the man command to specify the section. For example:

```
man -s 3x rtc_api
```

- man page conflicts

Some Oracle Solaris Studio 12.3 man pages conflict with existing Solaris operating system man pages. Symbolic links for the following man pages are not created; links to the Solaris versions are preserved.

```
/usr/share/man/man1 symlinks not created: intro.1, ctags.1
```

```
/usr/share/man/man3m symlinks not created: exp2.3m, feclearexcept.3m
fegetenv.3m, fegetexceptflag.3m, fegetprec.3m, fegetround.3m,
feholdexcept.3m, feraiseexcept.3m, fesetenv.3m, fesetexceptflag.3m,
fesetprec.3m, fesetround.3m, fetestexcept.3m, feupdateenv.3m,
fex_get_handling.3m, fex_get_log.3m, fex_get_log_depth.3m,
fex_getexcepthandler.3m, fex_log_entry.3m, fex_merge_flags.3m'
fex_set_handling.3m, fex_set_log.3m, fex_set_log_depth.3m,
fex_setexcepthandler.3m, isinf.3m, isnormal.3m, log2.3m,
signbit.3m, sincos.3m
```

- To access these Studio man pages, use the `-M path` option in the man command.
- deprecated binaries

```
/usr/bin/ptclean symlink is not created.
/usr/share/man/man1/ptclean.1 symlink is not created.
```

Installing Oracle Solaris Studio 12.3 Software in a Different Directory

If you have Forte Developer 6 software, Sun ONE Studio 7 software, Sun ONE Studio 8 software, Sun Studio 8 software, Sun Studio 9 software, Sun Studio 10 software, Sun Studio 11 software, Sun Studio 12 software, Sun Studio 12 Update 1 software, or Oracle Solaris Studio 12.2 software installed, be sure to follow the installation instructions and install the Oracle Solaris Studio 12.3 software in a different directory.

Extracting Installation Data Might Fail With No Error Message

Running the non-GUI installer with the `--extract-installation-data` option can fail with no user-readable error message.

register_solstudio Utility Might Not Generate Registration Page

In some cases, if you run the `register_solstudio` utility in your installation directory, it does not generate a registration page and open it in your browser.

Workaround:

- Copy the `register_solstudio` utility from `installation_directory/bin` to `installation_directory/bin/condev/bin`.
- Replace `installation_directory/bin/register_solstudio` with a symbolic link to `installation_directory/bin/condev/bin/register_solstudio`.
- Run the `register_solstudio` utility and it will generate a registration page and open it in your browser.

To turn off registration notification, set the `SUNW_NO_REGISTRATION_NOTIFICATION` environment variable to a non-zero value.

IDE, DLight, and Code Analyzer Information

Any updates to the Oracle Solaris Studio 12.3 IDE, dbxtool, DLight observability tool, and Code Analyzer will be delivered in Oracle Solaris Studio product patches, not through the NetBeans autoupdate feature, which is disabled by default in these tools.

In the following cases, conflicts might occur in these tools when you install such product patches:

- If you have enabled the autoupdate feature in the tool and automatic updates have occurred.
- If you have installed plugins from the NetBeans Update Center.

To resolve the conflicts:

- If you installed your Oracle Solaris Studio tools with the package installer on Solaris 10 or from the IPS repository on Solaris 11, delete `ide-12.3-OS-architecture` (for the IDE or DLight), `dbxtool-12.3-OS-architecture`, or `code-analyzer-12.3-OS-architecture` from your Solaris Studio user directory at `~/solstudio`.
- If you installed your Oracle Solaris Studio tools using the download tarfile, reinstall the tarfile.

Third-Party Software Information

Oracle Solaris Studio 12.3 software includes third-party technologies governed by the [Oracle Solaris Studio 12.3 Program Documentation Third Party Notices and Licenses Guide](#). For additional legal details, including information on distributable libraries, see the Legal Information section of the [Oracle Solaris Studio 12.3 documentation index page](#).

Usage Data to Oracle

The Usage Data to Oracle feature periodically sends information on your usage of Oracle Solaris Studio components to Oracle Corporation. This information is used by Oracle Corporation to improve future Oracle Solaris Studio software releases. This information is anonymous and cannot be associated to any individual or organization.

However, if you wish to disable Usage Data to Oracle, set the `SUNW_NO_UPDATE_NOTIFY` environment variable to any value other than false.

Features That Have Been Removed in This Release

The following features have been removed in this release of Oracle Solaris Studio.

-compat=4 option in the C++ compiler

The `-compat=4` option sets the C++ compiler to compatibility mode. That is, it sets language and binary compatibility to that of the 4.0.1, 4.1, and 4.2 compilers. It sets the `__cplusplus` preprocessor macro to 1 and the `__SUNPRO_CC_COMPAT` preprocessor macro to 4.

-xarch=v7/v8/v8a Compiler Options

`-xarch=v7`: Compile for the SPARC-V7 ISA. This option is obsolete. Current Solaris operating systems no longer support the SPARC V7 architecture, and programs compiled with this option run slower on current platforms.

`-xarch=v8`: Compile for the SPARC-V8 ISA. Enables the compiler to generate code for good performance on the V8 architecture. This option is obsolete.

`-xarch=v8a`: Compile for the V8a version of the SPARC-V8 ISA. By definition, V8a means the V8 ISA, but without the `fsmuld` instruction. This option enables the compiler to generate code for good performance on the V8a ISA. This option is obsolete.

The current default value for the `-xarch` option is `v8plus`. This value compiles for the V8plus version of the SPARC-V9 ISA. By definition, V8plus means the V9 ISA, but limited to the 32-bit subset defined by the V8plus ISA specification, without the Visual Instruction Set (VIS), and without other implementation-specific ISA extensions.

libcx

This library is now considered obsolete. The contents of `libcx` are available in the system library `libc`.

-Tpid/tid option of er_kernel command

This option lets you specify kernel profiling for a specific process or kernel-thread.

ScaLAPACK

The ScaLAPACK implementation provides distributed-memory linear algebra routines for users of the Oracle Message Passing Toolkit (formerly Sun HPC ClusterTools), allowing for high performance parallel computation in cluster environments. ScaLAPACK is available at <http://www.netlib.org/scaLapack/>.

Runtime Checking Support in the IDE

Runtime checking support is no longer available in the IDE. This functionality is still available in the dbx command-line debugger and the dbxtool debugger GUI.

Features That Might Be Removed in Future Releases

The following features might not be supported in a future release of Oracle Solaris Studio.

-xbinopt=prepare

The `-xbinopt` compiler option instructs the compiler to prepare the binary for later optimizations, transformations and analysis.

Annotations are now generated by default, and controlled by the `-xannotations` option.

-features=%all,%none

These C++ options have unpredictable results.

Old Fortran Module Format

The old module format generated by Forte Developer 7 Fortran 95 7.0 and earlier releases is not officially supported.

Classic C++ iostreams

Classic iostreams (`libiostream`) is the original 1986 version of iostreams, which was replaced in the 1998 C++ standard. You can select it with the `-library=rwtools7,iostream` option. No two implementations of "classic" iostreams are the same, so apart from the library being obsolete, code that uses it is not portable.

tools.h++ Library

`tools.h++` is a C++ foundation class library. Oracle Studio 12.2 software, as well as previous releases of Sun Studio software, includes version 7.1.0 of this library, which was released in 1996 and has not been significantly updated since. The `time` and `date` classes have serious bugs that cannot be fixed. You can select the `tools.h++` library with the `-library=rwtools7` option or the `-library=rwtools7_std` option.

The functionality in `tools.h++` is available in the C++ Standard Library or in the BOOST libraries, but with a different programming interface (API). For information on more recent versions of `tools.h++`, see the Rogue Wave software web site at <http://www.roguewave.com>.

system.h Header File

This C++ header file is left over from Cfront and predates `unistd.h`. Use `unistd.h` instead.

Documentation Information

This section gives information about the documentation for this Oracle Solaris Studio 12.3 release. Information in these release notes supersedes information in any of the other documentation.

Documentation Included With the Oracle Solaris Studio 12.3 Release

The following documentation is available with this Oracle Solaris Studio 12.3 release.

- Online help. The online help available through the Help menu in the IDE provides task-oriented information on using all of the components of the IDE. Online help for the Performance Analyzer and the Thread Analyzer is available through the Help menu in the Performance Analyzer GUI. Online help for DLight, the Code Analyzer, and dbxtool is available through the Help menus in these tools.
- *What's New in the Oracle Solaris Studio 12.3 Release*. This document describes the new features, performance enhancements, problems and workarounds, and limitations in the Oracle Solaris Studio 12.3 release. The release notes might contain additional information on problems and workarounds. You can access this document in HTML format or PDF format through the [Oracle Solaris Studio 12.3 documentation index page](#).
- Man pages. These online reference manual pages describe user commands, libraries that are supplied with the compilers, and other types of commands. Man pages contain reference information, including command syntax, usage, and related commands.

You can access these documents through the man command in the installed Oracle Solaris Studio 12.3 software.
- Oracle Solaris Studio 12.3 manuals and tutorials. You can access these documents in HTML format or PDF format through the [Oracle Solaris Studio 12.3 documentation index page](#).

Documentation Requirements

To view the documentation that is available in PDF format, you need Adobe Acrobat Reader software. To download the software, go to <http://www.adobe.com/products/acrobat/readstep.html>.

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Oracle Corporation 500 Oracle Parkway, Redwood City, CA 94065 U.S.A.