Installation and Setup Guide for Linux Platforms

Sun™ Studio 11

Sun Microsystems, Inc.
www.sun.com

Adobe PostScript

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Before You Begin

This installation guide gives instructions for how to perform the following tasks:

- Install the Sun™ Studio 11 software and serial number
- Install the recommended Java™ 2 Platform, Standard Edition (J2SE™) technology
- Run the Integrated Development Environment (IDE) after it is installed
- Uninstall Sun Studio 11 product software
- Troubleshoot installation problems

This book is designed for system administrators who install software and for developers who use software development applications. Experience with the Linux operating system and commands is required.

Typographic Conventions

TABLE P-1   Typeface Conventions

Typeface	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your `.login` file. Use `ls -a` to list all files. `% You have mail.`
AaBbCc123	What you type, when contrasted with on-screen computer output	`% `**`su`** `Password:`
AaBbCc123	Book titles, new words or terms, words to be emphasized	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this.
AaBbCc123	Command-line placeholder text; replace with a real name or value	To delete a file, type **`rm`** *filename*.

TABLE P-2 Code Conventions

Code Symbol	Meaning	Notation	Code Example
[ ]	Brackets contain arguments that are optional.	`O[`*n*`]`	`O4, O`
{ }	Braces contain a set of choices for a required option.	`d{y|n}`	`dy`
|	The "pipe" or "bar" symbol separates arguments, only one of which may be chosen.	`B{dynamic|static}`	`Bstatic`
:	The colon, like the comma, is sometimes used to separate arguments.	`R`*dir*`[:`*dir*`]`	`R/local/libs:/U/a`
…	The ellipsis indicates omission in a series.	`xinline=`*f1*`[,…`*fn*`]`	`xinline=alpha,dos`

Shell Prompts

Shell	Prompt
C shell	*machine-name*`%`
C shell superuser	*machine-name*`#`
GNU Bourne-Again shell and Korn shell	`$`
Superuser for GNU Bourne-Again shell and Korn shell	`#`

Accessing Sun Studio Software and Man Pages

The Sun Studio software and its man pages are not installed into /usr/bin/ and /usr/share/man directories. To access the software, you must have your PATH environment variable set correctly (see "Accessing the Software" on page 11). To access the man pages, you must have your MANPATH environment variable set correctly (see "Accessing the Man Pages" on page 12).

For more information about the PATH variable, see the csh(1), sh(1), ksh(1), and bash(1) man pages. For more information about the MANPATH variable, see the man(1) man page.

Note – The information in this section assumes that your Sun Studio software is installed in the /opt/sun/ directory. If your software is not installed in the /opt/sun directory, ask your system administrator for the equivalent path on your system.

Accessing the Software

Use the steps below to determine whether you need to change your PATH variable to access the software.

To Determine Whether You Need to Set Your PATH Environment Variable

1. **Display the current value of the PATH variable by typing the following at a command prompt.**

```
% echo $PATH
```

2. **Review the output to find a string of paths that contain** /opt/sun/sunstudio11/bin/.

   If you find the path, your PATH variable is already set to access the software. If you do not find the path, set your PATH environment variable by following the instructions in the next procedure.

To Set Your PATH Environment Variable to Enable Access to the Software

● **Add the following path to your PATH environment variable. If you have previously installed Forte Developer software, Sun ONE Studio software, or another release of Sun Studio software, add the following path before the paths to those installations.**

```
/opt/sun/sunstudio11/bin
```

Accessing the Man Pages

Use the following steps to determine whether you need to change your MANPATH variable to access the man pages.

To Determine Whether You Need to Set Your MANPATH Environment Variable

1. **Request the dbx man page by typing the following at a command prompt.**

```
% man dbx
```

2. **Review the output, if any.**

   If the dbx(1) man page cannot be found or if the man page displayed is not for the current version of the software, follow the instructions in the next procedure for setting your MANPATH environment variable.

To Set Your MANPATH Environment Variable to Enable Access to the Man Pages

● **Add the following path to your MANPATH environment variable.**

```
/opt/sun/sunstudio11/man
```

Accessing the Integrated Development Environment

The Sun Studio integrated development environment (IDE) provides modules for creating, editing, building, debugging, and analyzing the performance of a C, C++, or Fortran application.

The command to start the IDE is `sunstudio`. For details on this command, see the `sunstudio`(1) man page.

The correct operation of the IDE depends on the IDE being able to find the core platform. The `sunstudio` command looks for the core platform in two locations:

- The command looks first in the default installation directory, `/opt/sun/netbeans/3.5V11`.
- If the command does not find the core platform in the default directory, it assumes that the directory that contains the IDE and the directory that contains the core platform are both installed in or mounted to the same location. For example, if the path to the directory that contains the IDE is `/foo/sunstudio11`, the command looks for the core platform in `/foo/netbeans/3.5V11`.

If the core platform is not installed or mounted to either of the locations where the `sunstudio` command looks for it, then each user on a client system must set the environment variable `SPRO_NETBEANS_HOME` to the location where the core platform is installed or mounted (`/`*installation_directory*`/netbeans/3.5V11`).

Each user of the IDE also must add `/`*installation_directory*`/sunstudio11/bin` to their `$PATH` in front of the path to any other release of Forte Developer software, Sun ONE Studio software, or Sun Studio software.

The path `/`*installation_directory*`/netbeans/3.5V11/bin` should not be added to the user's `$PATH`.

Accessing Sun Studio Documentation

You can access the documentation at the following locations:

- The documentation is available from the documentation index that is installed with the software on your local system or network at `file:/opt/sun/sunstudio11/docs/index.html`.

  If your software is not installed in the `/opt` directory, ask your system administrator for the equivalent path on your system.

- Most manuals are available from the `docs.sun.com`sm web site.

- The release notes for both Solaris platforms and Linux platforms are available from the `docs.sun.com` web site.

- Online help for all components of the IDE is available through the Help menu, as well as through Help buttons on many windows and dialog boxes, in the IDE.

The `docs.sun.com` web site (`http://docs.sun.com`) enables you to read, print, and buy Sun Microsystems manuals through the Internet. If you cannot find a manual, see the documentation index that is installed with the software on your local system or network.

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Documentation in Accessible Formats

The documentation is provided in accessible formats that are readable by assistive technologies for users with disabilities. You can find accessible versions of documentation as described in the following table. If your software is not installed in the `/opt` directory, ask your system administrator for the equivalent path on your system.

Type of Documentation	Format and Location of Accessible Version
Manuals (except third-party manuals)	HTML at http://docs.sun.com
Readmes	HTML on the developer portal at http://developers.sun.com/prodtech/cc/document ation/ss11_docs/mr/READMEs
Man pages	HTML in the installed software through the documentation index at file:/opt/sun/sunstudio11/docs/index.html
Online help	HTML available through the Help menu and Help buttons in the IDE
Release notes	HTML at http://docs.sun.com

Resources for Developers

Visit http://developers.sun.com/prodtech/cc to find these frequently updated resources:

- Articles on programming techniques and best practices
- A knowledge base of short programming tips
- Documentation of compilers and tools components, as well as corrections to the documentation that is installed with your software
- Information on support levels
- User forums
- Downloadable code samples
- New technology previews

You can find additional resources for developers at http://developers.sun.com.

Contacting Sun Technical Support

If you have technical questions about this product that are not answered in this document, go to:

http://www.sun.com/service/contacting

Sun Welcomes Your Comments

Sun is interested in improving its documentation and welcomes your comments and suggestions. Submit your comments to Sun at this URL:

http://www.sun.com/hwdocs/feedback

Please include the part number of the document in the subject line of your email. For example, the part number for this document is 819-3051-10.

Preparing for Installation

This chapter includes information about the following topics:

- Software Installation Overview
- System Requirements
- Adding Swap Space
- Choosing Local Display or Remote Display of the Installer
- Installing to an NFS-mounted Filesystem
- Installation Features Included in This Release

Software Installation Overview

The following steps outline the general process you follow to install the Sun Studio 11 software, product serial number, and supporting software. See the references provided in each step for specific procedures.

Task	Description	For Instructions
1. Verify that the system on which you are installing the Sun Studio 11 software meets the minimum requirements for this release.	Using a system that meets the system requirements is recommended for proper performance.	See "System Requirements" on page 18.
2. Determine whether you are going to display the installer locally or remotely.	You can install the Sun Studio software using a remote display or local display.	Refer to "Choosing Local Display or Remote Display of the Installer" on page 21 for more details.
3. Verify that your system has access to the Java™ 2 Platform, Standard Edition technology.	The Sun Studio 11 software supports the Java™ 2 Platform, Standard Edition technology.	See "Installing the J2SE Platform" on page 33 for J2SE installation instructions, if necessary.
4. Choose an installation method.	There are three ways to install the Sun Studio software.	See "Choosing an Installation Method" on page 26 for more information.
5. Install the Sun Studio 11 software and serial number.	Step through the installation information.	See "Installing the Sun Studio 11 Software" on page 25 for installation instructions.

System Requirements

Sun Studio 11 software software supports the system requirements shown in TABLE 1-1.

Note – For further disk space requirements and important last minute information about this release, see the release notes for the Sun Studio 11 software on Linux platforms on the product web site at http://wwws.sun.com/software/products/studio/index.html.

TABLE 1-1   System Requirements

Operating system	SUSE Linux Enterprise Server 9 (en locale only, not supported in ja and zh locales) RedHat Enterprise Linux 4

CPU	x86 architecture (32 bit):
	Minimum:
	  Intel Pentium III 500 MHz
	  Workstation
	
	x64 architecture (64 bit):
	Recommended:
	  Sun Java Workstation W2100z or
	  better (two 2.6 GHz 200 series
	  AMD Opteron processors)
	Minimum:
	  Sun Fire V20z Server

Memory	Recommended: 1 Gbyte Minimum: 512 Mbytes
Swap Space*	Recommended: 2 Gbytes Minimum: 1 Gbyte
Disk Space	556 Mbytes
J2SE Technology	J2SE 1.4.2_08 technology or J2SE 5.0 Update 3 technology
Compilers	GCC 3.3 family on Sun Java Desktop System, Release 3 and SUSE Linux Enterprise Server 9 GCC 3.4 family on RedHat Enterprise Linux 4 (gcc compiler and g++ compiler only, g77 compiler is not supported)

*Use the `swapon -s` command to display the existing swap space.

Adding Swap Space

If you want to add swap space, do the following:

1. Become a superuser (root) by typing:

```
% su
Password: root-password
```

2. **Create a file in a selected directory to add swap space by typing:**

```
# dd if=/dev/zero of=/dir/myswapfile bs=1024 count=number_blocks_needed
```

where *dir is* a directory in which you have permission to add swap space. The *myswapfile* is the name of the swap file you are creating. The *number_blocks_needed* is an amount of 1024-byte blocks you want to create.

See the dd(1) man page for more information.

3. **Verify that the file was created by typing:**

```
# ls -l /dir/myswapfile
```

The new file appears in the directory.

4. **Initialize the new swap area by typing:**

```
# mkswap /dir/myswapfile
```

See the mkswap(8) man page for more detailed information.

5. **Run the swapon command to enable the new swap space for paging and swapping by typing the following:**

```
# swapon -a /dir/myswapfile
```

6. **Verify that the extra swap space was added by typing:**

```
# swapon -s
```

The output shows the allocated swap space.

Choosing Local Display or Remote Display of the Installer

You can display the installer either locally or remotely while you are installing the Sun Studio 11 software with the graphical user interface installer or the command-line installer:

- **Local display.** The source computer and the display computer are the same computer. The installer window or command-line installer is displayed on the same computer that contains the product CD-ROM or downloaded files and runs the installer. You can continue to Chapter 2.

- **Remote display.** The source computer and the display computer are different computers. The source computer contains the product CD-ROM or downloaded files and runs the installer. The display computer displays the installer window or command-line installer. To install using a remote display, follow the instructions in "Preparing to Install Using a Remote Display" on page 21 or "Installing to an NFS-mounted Filesystem" on page 22.

Preparing to Install Using a Remote Display

To prepare for installation using a remote display, follow these steps:

1. **On the display computer, enable client access to the X server by typing the following at a command line:**

   ```
   % xhost + source-computer-name
   ```

   Replace *source-computer-name* with the output of the `/usr/bin/hostname` command entered on the source computer, which is the computer that contains the product CD-ROM or downloaded files.

2. **Log in to the source computer and become a superuser (root) by typing:**

   ```
   % rlogin source-computer-name -l rootname
   Password: root-password
   ```

3. **On the source computer, set the display to the monitor that is attached to the display computer.**

   If you use the C shell, type:

   ```
   # setenv DISPLAY display-computer-name:0.0
   ```

   If you use the GNU Bourne-Again shell, type:

   ```
   # export DISPLAY=display-computer-name:0.0
   ```

   If you use the Korn shell, type:

   ```
   # export DISPLAY=display-computer-name:0.0
   ```

   Replace *display-computer-name* with the output of the /bin/hostname command entered on the display computer.

Installing to an NFS-mounted Filesystem

To install the Sun Studio software on an NFS-mounted filesystem, you must run the installer on a supported system regardless of where the NFS partition is mounted. In the following procedure, the server is the machine with the physical disk on which the installed software will reside, and the client is the machine on which you run the installer and which NFS-mounts the filesystem from the server.

Note – The best way to share the product image as an NFS-mounted filesystem is to export it from a supported system. Run the installer on the server and share the directory in which the software is installed. Use the following NFS install procedure only if your NFS server is not a supported platform for the product.

To prepare for installing the Sun Studio software on an NFS-mounted filesystem:

1. **On the server machine, share the filesystem with the appropriate options. It is essential that** root **on the client machine on which the installer will be run have full access to the NFS filesystem:**

   ```
   # /usr/sbin/exportfs -o no_root_squash,rw client-machine:filesystem
   ```

2. **On the client machine, mount the shared filesystem with read/write access:**

```
# mount server-machine:filesystem installation-directory
```

For example, you might mount the filesystem on installation directory /mnt on client machine foo.

You can then install the Sun Studio product on the server by running the graphical user interface installer, command-line installer, or batch installer on client machine foo. For the graphical user interface installer or the command-line installer, you would select /mnt as the installation directory. For the batch installer, you would specify /mnt as the installation directory using the -d option.

After you have installed the software, any machine that is running a supported version of the Linux operating system can mount the filesystem from the server on which you installed the software, and run the software..

To uninstall Sun Studio software installed on an NFS-mounted filesystem, you must run the uninstaller on the same client machine you used to install the software, and you must mount the filesystem prior to running the uninstaller.

Installation Features Included in This Release

This Sun Studio 11 software software release includes the following installation features:

- Graphical user interface installation
- Command-line installation
- Batch installation
- J2SE software installation
- Batch uninstallation
- Graphical user interface uninstallation
- Command-line uninstallation

This document includes instructions for using each of the features.

Installing the Sun Studio 11 Software

This chapter gives you instructions for installing your Sun™ Studio 11 software and serial number.

Supporting Previous Sun Studio Releases

If you installed any other release of the Sun Studio software on your system, then install the Sun Studio 11 software in a different directory. If you have Sun Studio 10 update 1 Early Access software installed, be sure to uninstall this software before installing the Sun Studio 11 software.

After installation, modify your `PATH` and `MANPATH` environment variables to include the new directory. See "Setting Up Access to the Developer Tools and Man Pages" on page 34 for more information about setting the variables to use the new release.

Installing From Electronic Download Files

If you obtained your Sun Studio 11 software through electronic download, you can find complete instructions for downloading the software file, extracting the file contents, and starting the installer on the download page of the product web site at `http://wwws.sun.com/software/products/studio/index.html`. Follow the instructions in the *Download Instructions* before you proceed with product installation.

Choosing an Installation Method

There are three ways to install the Sun Studio 11 software:

- Use the graphical user interface (GUI) installer. See "Using the Graphical User Interface Installer" on page 26 for instructions.
- Use the command-line installer if you do not have graphical user interface capabilities. See "Using the Command-Line Installer" on page 29 for instructions.
- Use the batch installer (see "Using the Batch Installer" on page 31) to install the software in a default installation.

Using the Graphical User Interface Installer

These instructions describe how to install the Sun Studio 11 software and serial number using the graphical user interface installer available on the product CD-ROM. If you get the product from an electronic download, be sure to follow all instructions in the *Download Instructions*, which is available for download from the product web site download page.

Note – Do not use the rpm command to install the software. Use the provided installer. Do not run the installer in the background.

---

1. **Decide if you want to install using a remote display. See "Choosing Local Display or Remote Display of the Installer" on page 21 for details.**

2. **If you are not currently superuser (root), become a superuser by typing:**

```
% su
Password: root-password
```

Note – The installer prompts you to log in as superuser (root) if you invoke the installer when you are not logged in as superuser (root).

---

3. **Insert the CD-ROM in the CD-ROM drive.**

   The product installer starts.

   If the installer does not start, start the installer by typing:

   ```
   # /path_to_CDROM/installer
   ```

   The Welcome page opens.

4. **(Optional for electronic download) If you downloaded the product files from the product web site, do the following:**

   a. **See the** *Download Instructions* **available on the product web site download page for more information on uncompressing the tar file and extracting the contents.**

   b. **From the download directory, start the installer by typing:**

   ```
   # ./installer
   ```

   The Welcome page opens.

5. **Click Next in the Welcome page.**

   The Initializing page appears, and when initialization is complete, the Software License Agreement page appears.

6. **In the Software License Agreement page, click** `Accept`**.**

   If you choose `Decline`, you cannot continue with the installation.

7. **Click Next to proceed to the Select Component page.**

8. **In the Select Component page, select the type of installation you want for each product.**
   - If you select Do Not Install, the product is not installed.
   - If you select Default Install, the installer installs all components of the product and all online documentation that is associated with the components.
   - If you select Custom Install, the installer allows you to select (in Step 10) which subcomponents of the product you want to install.

9. **Click Next to proceed to the Select Install Directory page.**

10. **In the Select Install Directory page, you can choose the default directory or another directory in which to install the product. Click Next when you are finished.**

    If you did not select Custom Install for any of the products, skip to Step 11.

    (**Optional for Custom Install**) If you selected Custom Install for any of the products in the Product Selection page, a Subcomponent Selection page is displayed for each of those products.

    a. **Select the subcomponents you want to install by clicking the check box next to the item.**

    Items with a check mark in the box will be installed.

    b. **Click Next to continue with installation.**

    The installer checks for adequate disk space, and the Ready to Install page appears.

11. **Verify that the disk space shown at the top of the Ready to Install page is available on your system by using the** df -k **command. If you receive a disk space error message and you have sufficient disk space to install the product, then ignore the error message and continue with installation.**

12. **In the Ready to Install page, confirm that the items you want to install are listed.**

    ■ If the products you want are listed, click Install Now.

    ■ If you want to install more products, click Back to return to the Select Components page, make your selections, and click Next to return to the Ready to Install page.

    The Installing page appears with a progress indicator. When installation is complete, the Installation Summary page appears.

13. **If you want to view the installation log file for a product, click the Details button for that product in the Installation Summary page.**

14. **In the Registration page, read the information about registering the product and click Next.**

15. **In the After Installation page, read the information about the log files and how to run the product.**

16. **Click Exit to finish the Sun Studio 11 software installation.**

17. **Remove the CD-ROM from the CD-ROM drive.**

18. **(Optional) If you performed the installation using a remote display, on the display computer, disable client access by typing the following:**

    ```
    # xhost - source-computer-name
    ```

19. **Exit from superuser privileges on the source computer by typing:**

```
# exit
```

20. **To set up your access to the Sun Studio 11 software tools and man pages, set your** `PATH` **and** `MANPATH` **variables by following the steps in** "Setting Up Access to the Developer Tools and Man Pages" on page 34**.**

21. **If you use a proxy server to access the Internet, set the** `ALL_PROXY` **environment variable to your proxy settings so that you can use the Update Notification feature of the Sun Studio 11 software. For information about setting your proxy and about the Update Notification feature, see** "Setting Your Proxy Information for Using the Update Notification Feature" on page 36

Using the Command-Line Installer

These instructions describe how to install the Sun Studio 11 software and serial number using the command-line interface.

Note – Do not use the `rpm` command to install the software. Use the provided installer. Do not run the installer in the background.

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1. **Decide if you want to install using a remote display. See** "Choosing Local Display or Remote Display of the Installer" on page 21 **for details.**

2. **If you are not currently superuser, become a superuser (root) by typing:**

```
% su
Password: root-password
```

Note – The installer prompts you to log in as superuser (root) if you invoke the installer when you are not logged in as superuser (root).

---

3. **Insert the CD-ROM in the CD-ROM drive.**

   If the GUI installer starts, choose Exit to exit from the installer. To restart the installer in the command line, type:

   ```
   # /path_to_CDROM/installer -nodisplay
   ```

   (**Optional for electronic download**) If you downloaded the product files from the product web site, do the following:

   a. **See the** *Download Instructions* **available on the product web site download page for more information on uncompressing the tar file and extracting the contents.**

   b. **From the download directory, start the command-line installation by typing:**

   ```
   # /download-directory/installer -nodisplay
   ```

   Do not run the installer in the background.

4. **The installer welcomes you. Press Enter to continue.**

   The Software License Agreement text is displayed.

   Note – The Enter key is equivalent to the Return key on some keyboards. Press the Enter key to accept the default selections during installation.

   ---

5. **Follow the installer instructions to complete the installation. See Step 10 in "Using the Graphical User Interface Installer" on page 26 for additional information about selecting the installation directory.**

6. **When installation is complete, you can view a product's log file by typing the number that corresponds to that product. When you finish viewing the log files, type the number that corresponds to** `Done`**.**

7. **Remove the CD-ROM from the CD-ROM drive.**

8. **(Optional) If you performed the installation using a remote display, on the display computer, disable client access by typing the following:**

   ```
   # xhost - source-computer-name
   ```

9. **Exit from superuser privileges on the source computer by typing:**

   ```
   # exit
   ```

10. **To set up your access to the Sun Studio 11 software tools and man pages, set your** PATH **and** MANPATH **variables by following the steps in** "Setting Up Access to the Developer Tools and Man Pages" on page 34**.**

11. **If you use a proxy server to access the Internet, set the** ALL_PROXY **environment variable to your proxy settings so that you can use the Update Notification feature of the Sun Studio 11 software. For information about setting your proxy and about the Update Notification feature, see** "Setting Your Proxy Information for Using the Update Notification Feature" on page 36

Using the Batch Installer

The batch installer requires minimal user interaction and can be run from a single command. Follow these instructions to use the batch installer:

Note – Do not use the rpm command to install the software. Use the provided installer. Do not run the installer in the background.

---

1. **Decide if you want to install using a remote display. See** "Choosing Local Display or Remote Display of the Installer" on page 21 **for details.**

2. **If you are not currently superuser, become a superuser (root) by typing:**

```
% su
Password: root-password
```

3. **Use the following command to run the batch installer:**

```
batch_installer [-d dirname] [-h]
```

See TABLE 2-1 for the options that are available for the batch_installer command.

TABLE 2-1 batch_installer Options and Option Descriptions

Option Name	Option Description
-d *dirname*	Installs in directory *dirname.*
-h	Displays usage information for the batch_installer command.

The `batch_installer` command and the options can be used in the scenarios shown in TABLE 2-2

TABLE 2-2 Installation Scenarios Using the `batch_installer` Command and Options

Scenario	Command Typed at the Prompt
Install in the default directory	`#./batch_installer`
Install in a directory other than the default directory	`#./batch_installer -d /`*dirname*

4. **Choose the appropriate installation scenario from** TABLE 2-2 **to run the** `batch_installer` **command. For example, to use the options to generate the 60-day Trial serial number and install in a directory other than the default, type the following:**

```
# /cdrom/./batch_installer -d /dirname
```

The Software License Agreement is displayed, and the installer checks for adequate disk space. The installer proceeds with installation, and the prompt returns when installation is complete.

(**Optional for electronic download**) If you downloaded the product files from the product web site, type the following:

```
# /download-directory/install-directory/batch_installer -d /dirname
```

5. **(Optional) If you performed the installation using a remote display, on the display computer, disable client access by typing the following:**

```
% xhost - source-machine-name
```

6. **Exit from superuser privileges on the source computer by typing:**

```
# exit
```

7. **Set your** `PATH` **and** `MANPATH` **variables. See** "Setting Up Access to the Developer Tools and Man Pages" on page 34.

8. **If you use a proxy server to access the Internet, set the** `ALL_PROXY` **environment variable to your proxy settings so that you can use the Update Notification feature of the Sun Studio 11 software. For information about setting your proxy and about the Update Notification feature, see** "Setting Your Proxy Information for Using the Update Notification Feature" on page 36

Installing the J2SE Platform

The Sun Studio 11 Integrated Development Environment (IDE) supports the Java™ 2 Platform, Standard Edition technology (the J2SE™ technology).

If you have the supported J2SE technology installed on your system, then the J2SE selection is not visible in the Select Components page of the installer.

If you do not have the supported J2SE technology installed on your system, then you can install the technology on your system by using one of these installers:

- The product CD-ROM. During product installation, if you selected a default installation, then the J2SE technology is installed on your system. If you did not install the J2SE technology during the product installation, then run the installer again and select J2SE SDK 1.4.2 in the Select Components page.

- The downloadable file available on the download page of the product web site at `http://wwws.sun.com/software/products/studio/index.html`. See the *Download Instructions* available on the product web site download page for more information on extracting the tar file. Follow the instructions in "Using the Graphical User Interface Installer" on page 26 to install the J2SE technology.

Verifying a Successful Installation

Once the installation is completed, you can use any of the following methods to verify a successful installation:

- View the information in the Installation Summary page of the installer, which lists all products that are installed.

- View the `/var/opt/sun/install/productregistry` file to see the list of installed products.

- View the installation log files.

a. Go to the `logs` **directory by typing at the prompt:**

```
% cd /var/opt/sun/install/logs
```

b. View the file by typing:

```
% more Sun_Studio_Software_install.A03200125
```

The file extension varies for each log file.

Setting Up Access to the Developer Tools and Man Pages

Because the Sun Studio 11 software product components and man pages are not installed into the system directories `/usr/bin/` and `/usr/share/man`, you must change your `PATH` and `MANPATH` environment variables to enable use of the Sun Studio 11 software.

Note – The paths shown in this section assume that Sun Studio 11 software packages are installed in the `/opt/sun` directory. If you installed the software in a different directory, replace `/opt/sun` in the examples with that directory name.

Setting Your `PATH` Environment Variable So You Can Access Sun Studio 11 Software Tools

To use the Sun Studio 11 software commands, your `PATH` environment variable must contain the path `/opt/sun/sunstudio11/bin`. To determine whether you need to set your `PATH` environment variable, follow these steps:

1. Display the current value of the `PATH` **variable by typing:**

```
% echo $PATH
```

2. Review the output for a string of paths that contain `/opt/sun/sunstudio11`**.**

- If you find the path, your PATH variable is already set to access Sun Studio 11 software tools. (The /opt/sun path can be replaced by an alternative install path.)
- If you do not find the path, set your PATH variable as described in Step 3.

3. **Add the path** /opt/sun/sunstudio11/bin **to your** PATH **environment variable.**

Setting Your MANPATH Environment Variable So You Can Access Sun Studio 11 Man Pages

To access Sun Studio 11 man pages with the man command, your MANPATH environment variable must contain the path /opt/sun/sunstudio11/man. To determine whether you need to set your MANPATH environment variable, follow these steps:

1. **Request the** dbx**(1) man page by typing:**

```
% man dbx
```

2. **Review the output, if any.**

If the man dbx command cannot find the dbx(1) man page, or if the page that is displayed is not for the version of the software you just installed, you do not have the MANPATH variable set correctly. Set your PATH variable as described in the next step.

3. **Add the path** /opt/sun/sunstudio11/man/ **to your** MANPATH **environment variable.**

Adding the Changes to the Appropriate Environment Variable

The following procedure lets you permanently add the paths for the Sun Studio 11 software tools and man pages to the appropriate environment variables so that all Sun Studio 11 components are always available. These commands can also be entered at a shell prompt to temporarily enable that shell only.

1. **Add the Sun Studio 11 software to your** PATH **and** MANPATH **variables.**

> **Note –** The `PATH` and `MANPATH` variables must be set to include Sun Studio 11 software in each user's environment, which allows each user to use the installed software.

a. **Determine if your `MANPATH` variable is already set. At a shell prompt, type the command:**

```
% echo $MANPATH
```

If the response is an empty line, the `MANPATH` variable is not set. If paths to one or more man directories are displayed, the variable is set.

b. **Edit the environment file in your home directory. For example, if you are using the GNU Bourne-Again shell environment, add the following lines to your environment file:**

```
PATH=/opt/sun/sunstudio11/bin${PATH:+:}${PATH}
MANPATH=/opt/sun/sunstudio11/man:${MANPATH:=/usr/share/man}
```

Do not type any spaces in these two lines.

2. **Save the environment file that you modified in Step 1.**

3. **Reinitialize your shell.**

Setting Your Proxy Information for Using the Update Notification Feature

The Update Notification feature periodically checks `www.sun.com` and communicates available changes related to your Sun Studio software, including patches and major software updates.

You can view the current contents of the update file from the IDE by choosing Help → View update information.

To initiate contact with the server and get updated information, choose Help→ Check now for updates.

From the command line, you can view the update file at `~/.sunstudio/user_info/latest_updates.html`.

If Update Notification is not able to check for updates and your system is on a network with a proxy server, you can set proxy server information by doing the following:

1. **Choose Tools → Setup Wizard.**

2. **In the wizard, select the Use HTTP Proxy Server checkbox.**

3. **Type the proxy host name in the Proxy Server Name field and the port number in the Port field.**

4. **Click Finish.**

   You can also set the proxy server information using the ALL_PROXY environment variable; for example:

   ```
   setenv ALL_PROXY myproxy:8080
   ```

   Note – You must exit and restart the IDE for the proxy server information to be recognized by the IDE.

   To disable Update Notification, set the SUNW_NO_UPDATE_NOTIFY environment variable to any value other than false.

   Usage information is communicated during the Update Notification process. This information is used by Sun Microsystems to improve future Sun Studio software releases. This information is anonymous and cannot be associated to any individual or organization.

Starting and Setting Up the Sun Studio 11 IDE

This chapter describes how to run and setup the Sun™ Studio 11 integrated development environment (IDE) on your system.

Starting the IDE

Once you have the Sun Studio 11 software installed on your system, and you have the Java™ 2, Standard Edition (J2SE™) technology on your system or the path to where it is installed on the network, you can start using the software. To start the product, do the following:

● **At the prompt, type:**

```
% sunstudio
```

Note – The full path to the command is
/installation-directory/`sunstudio11/bin/sunstudio`.

If the software cannot find the supported J2SE technology, you will receive an error message. The `sunstudio` command looks for the J2SE technology in your `PATH` and in several standard locations on your system. If the J2SE technology is not installed on your system, do one of the following:

■ Use the `--jdkhome` option with the `sunstudio` command to specify the path to the J2SE technology on the network.

■ Set the `JDK_HOME` environment variable to the path to the J2SE technology on the network. Reinitialize your shell, then type the `sunstudio` command again.

For more information on the options available with the `sunstudio` command, see the `sunstudio` (1) man page. For more information about using the IDE, see the *Integrated Development Environment (IDE) Readme*.

Using the Setup Wizard

You can open the Setup wizard from the IDE Welcome screen by clicking the Setup Wizard button. You can also open the Setup wizard by selecting Tools→Setup Wizard. In the Setup wizard, you can indicate your preferred settings for general Sun Studio 11 software settings and for your text editor.

In the General Sun Studio Settings page, you can set the Window Mode, Web Browser, and Web Proxy. Choose your preferred display under Window Mode. For Web Browser, the External Browser (UNIX®) selection is the recommended choice. If you want to view any external web pages through the IDE, then you also have to indicate a Web Proxy.

In the Text Editor Preferences page, you can select your text editor of choice. The default selection is the Built-in Editor.

The Module Installation and Update Center pages of the Setup Wizard are not integral to the Sun Studio 11 IDE. Once you have selected your General Sun Studio Settings and the Text Editor Preferences, you can exit the Setup Wizard by clicking the Finish button to save your settings.

The Welcome screen of the IDE includes a tutorial to help you get started using the IDE. For further information on viewing the tools documentation, see "Accessing Sun Studio Software and Man Pages" on page 11.

Using the Registration Wizard

The Registration wizard opens the first time you run the IDE. You can also open the Registration wizard by clicking Help→Registration Wizard. You can choose to register online, by fax, or by mail.

Note To System Administrators

After you have installed the Sun Studio 11 software, you can send an email to the developers who will be using the software. An email template is available in the following directory:

/installation-directory/sunstudio11/READMEs/email_template.txt

The email template provides information for:

- Setting local environment variables
- Starting the IDE
- Locating product documentation
- Installing the J2SE technology locally

The J2SE technology should be in the environment path of each developer who is using the Sun Studio 11 software. The developers can have the J2SE technology installed locally or mapped in their path environment. To assist the developers in installing the J2SE environment, you can copy the studio11-lin-x86-j2sdk.tar file or mount the CD-ROM image on a network server that is available to the developers. Be sure to include the path to J2SE installer in the email that you send to the developers.

Uninstalling the Sun Studio 11 Software

This chapter describes how to uninstall the Sun™ Studio 11 software products and associated patches that are installed on your system.

When you successfully install your software, an uninstaller is automatically generated. There are four ways to use the uninstaller to remove the Sun Studio 11 software:

Use the batch uninstaller, which removes all Sun Studio 11 software in silent mode. See "Using the Batch Software Uninstaller" on page 44.

- Use the graphical user interface (GUI) uninstaller, which allows you to uninstall select Sun Studio 11 product components. See "Using a Graphical User Interface Uninstaller" on page 44.

- Use the command-line uninstaller, which allows you to uninstall select Sun Studio 11 product components in silent or interactive mode. See "Using a Command-Line Uninstaller" on page 46.

Note – Do not use the `rpm -e` command to uninstall the software. Use the provided uninstaller.

Uninstalling When Previous Versions Of Sun Studio Software Are Installed

If you installed the Sun Studio 11 software on a system that has previous Sun Studio software installations other than Sun Studio 11 product, then only the Sun Studio 11 software is removed when you use the uninstaller.

Using the Batch Software Uninstaller

The batch uninstaller removes all Sun Studio 11 software in the silent mode.

1. **Become a superuser (root) by typing:**

```
% su
Password: root-password
```

2. **Go to the product directory by typing:**

```
# cd /var/prod/com.sun.studio_11
```

Note – If you are uninstalling an Early Access version of the product, the uninstaller directory is /var/prod/com.sun.studio_10u1_ea*n*.

---

3. **Start the batch uninstaller by typing:**

```
# ./batch_uninstall_all
```

The batch uninstaller starts and continues with uninstallation.

Using a Graphical User Interface Uninstaller

TABLE 4-1 shows the software names and the uninstaller.class file names that you use to uninstall the Sun Studio 11 software.

TABLE 4-1   Software Names and Related Uninstaller `.class` File Names

Software Name	Uninstallation `.class` File Names
IDE and tools software	`uninstall_Sun_Studio_Software.class`
Source Distribution	`uninstall_Source_Distribution.class`
Documentation	`uninstall_Documentation.class`
Uninstaller class files are located at `/var/prod/com.sun.studio_11`	

To run an uninstaller, follow these steps:

1. **If you have not already done so, become a superuser (root) by typing:**

```
% su
Password: root-password
```

2. **Go to the uninstaller directory by typing:**

```
# cd /var/prod/com.sun.studio_11
```

3. **Determine the uninstaller `.class` file name for the software you want to uninstall by typing `ls -l` to see the list of uninstaller `.class` file names or referring to** TABLE 4-1**.**

4. **To start the uninstaller, type the following, using the appropriate uninstaller `.class` file name.**

Note – Do not include the `.class` extension of the file name when you type the command.

```
# java uninstall_uninstaller-class-file-name
```

For example, to remove the Sun Studo 11 software, type:

```
# java uninstall_Sun_Studio_Software
```

The Uninstalling window appears. The Welcome page shows you which products will be uninstalled.

5. **In the Welcome page, click Next to continue.**

   The Select Type of Uninstall page appears.

6. **In the Select Type of Uninstall page, select the type of uninstallation you want:**

   If you want to uninstall all of the components of the product, select Full. Click Next and proceed to Step 8.

   If you want to uninstall only certain components of the product, select Partial. Click Next and proceed to Step 7.

7. **In the Component Selection page, deselect the components you do not want to uninstall by clicking their checkboxes to remove the check marks. Click Next to continue.**

8. **In the Ready to Uninstall page, click Uninstall Now.**

   The Uninstalling page appears with a progress indicator. When uninstallation is complete, the Uninstallation Summary page appears. Click the Details button to view the log files.

9. **Click Exit to exit the uninstaller.**

10. **(Optional) If you performed the uninstallation using a remote display, on the display computer, disable client access by typing the following:**

    ```
    % xhost - source-computer-name
    ```

11. **Exit from superuser privileges on the source computer by typing:**

    ```
    # exit
    ```

Using a Command-Line Uninstaller

To remove software products with the command-line uninstaller, follow these steps:

1. **Become a superuser (root) by typing:**

   ```
   % su
   Password: root-password
   ```

2. **Go to the product directory by typing:**

```
# cd /var/prod/com.sun.studio_11
```

3. **To determine the uninstaller `.class` file name for the software you want to uninstall, type `ls -1` to see the list of uninstaller `.class` file names or refer to** **.**

4. **Type one of the following commands to run the command-line uninstaller, using the appropriate uninstaller `.class` file name.**

Note – Do not include the `.class` extension of the file name when you type the command. Also, the commands below assume that your PATH environment variable includes the path to the `java` command.

- To uninstall a product using its interactive command-line uninstaller, type:

```
# java uninstall_uninstaller-class-file-name -nodisplay
```

For example, to uninstall the Sun Studio 11 software, type:

```
# java uninstall_Sun_Studio_Software
```

The installer shows you which product will be uninstalled. Proceed to .

- To uninstall the entire product without any additional prompts (in silent mode), type:

```
# ./batch_uninstall_all
```

The product is uninstalled and the uninstaller exits. Proceed to .

5. **Press Enter to continue.**

6. **Follow the command-line instructions to complete the uninstallation.**

7. **When uninstallation is complete, you have the option to view the product's log file by typing its corresponding number. When finished, type the number that corresponds to `Done`.**

The installer exits.

8. **(Optional) If you performed the uninstallation using a remote display, on the display computer, disable client access by typing the following:**

```
% xhost - source-computer-name
```

9. **Exit from superuser privileges on the source computer by typing:**

```
# exit
```

Troubleshooting

This chapter describes how to fix problems that can occur during Sun™ Studio 11 software installation and uninstallation.

How Can I View the Installation Log Files?

When you install the Sun Studio software, log files that contain a record of the installation are automatically generated.

To troubleshoot installation problems by viewing the log files, do the following:

1. **Go to the** `logs` **directory by typing at the prompt:**

```
% cd /var/tmp/
```

2. **View the file by typing:**

```
% more Sun_Studio_Software_install.A03200125
```

The file extension varies for each log file.

What If the Installation Fails on an NFS-Mounted Filesystem?

If the installation fails on an NFS-mounted filesystem, ensure that you have write permission on that filesystem. You can check for write permission by following the instructions below. See "Choosing Local Display or Remote Display of the Installer" on page 21 for more information about installing on an NFS-mounted filesystem.

1. **Check for write permission by typing:**

```
% touch /net/remote-system/opt/testfile
```

If you receive an error message, then you do not have write permission. For example:

```
% touch /net/harker/opt/testfile
touch: /net/harker/opt/testfile cannot create
```

2. **Choose another installation directory on which you have write permission, or contact your system administrator to change the filesystem permissions.**

What Can I Do If the Batch Installer Stalls?

If you enter an invalid parameter when you start the batch installer, the installer stalls and does not complete the installation. Some common errors include typing an incorrect serial number, including two different directory names, or invoking the installer when you do not have enough disk space.

Follow these steps to restart the batch installer:

1. **View the log files for any error messages by typing:**

```
% cd /var/opt/sun/install
% more Sun_Studio_Software_install.A03200125
```

2. **To stop the installer, press Control+C.**

3. **To install the product using the batch installer, see "Using the Batch Installer" on page 31 of Chapter 2.**

Sun Studio 11 Components and Packages

This appendix lists the RPM packages that comprise the Sun Studio 11 software products.

TABLE A-1 lists the Sun Studio 11 software package configuration and component information for the Linux operating system.

TABLE A-1   Sun Studio 11 Product RPM Packages

Sun Studio 11 Building Software (SPROCBLD)
Sun Studio 11 Distributed Make (sun-dmake)
Sun Studio 11 dmake Man Page (sun-mrdmk)
Sun Studio 11 Demos (SPROCTDEMO)
Sun Studio 11 Tools Examples and Programs (sun-tdemo)
Sun Studio 11 X-Designer (SPROCXD)
Sun Studio 11 X-Designer Motif GUI Builder (sun-fdxd)
Sun Studio 11 X-designer Man Pages and Online Help (sun-mrxd)
Serial Number Installation Tool and Misc files (SPROCMISC)
Sun Studio 11 Installer Misc files (sun-pnsn)
Sun Studio 11 Serial Number Installation Tool (sun-snit)

TABLE A-1   Sun Studio 11 Product RPM Packages *(Continued)*

Sun Studio 11 IDE (SPROCIDE)

        Sun Studio 11 GUI Interface Support (sun-svc)

        Sun Studio 11 dbx GUI plug-in (sun-dbxui)

        Sun Studio 11 X-designer plug-in (sun-xdplg)

        Sun Studio 11 Branding files (sun-idext)

        Sun Studio 11 Licensing Management Tool (sun-nblic)

        Sun Studio 11 External Editor Module Binary Distribution (sun-exted)

        Sun Studio 11 NetBeans Lite (sun-nbide)

        Sun Studio 11 cpp Module Binary Distribution (SUNWnbcpp)

        Sun Studio 11 Registration Tool (sun-nbreg)

        Sun Studio 11 IDE connector README (sun-mride)

        Sun Studio 11 Linux Man Pages/Online Info (sun-mrlnx)

Dwarf Library Source Distribution (DWSRC)

        Sun Studio 11 DwarfSupportLibrary (sun-dwrfs)

OpenMotif Source Distribution (OMSRC)

        Sun Studio 11 OpenMotif binaries (sun-omsrc)

TABLE A-1   Sun Studio 11 Product RPM Packages *(Continued)*

Sun Freeware Editors (SPROCED)

        Sun Studio 11 vim external editor (sun-gvim)

        Sun Studio 11 XEmacs 21.4.12 - architecture-dependent run-time kit (sun-xmbin)

        Sun Studio 11 XEmacs 21.4.12 - architecture-independent run-time kit (sun-xmshr)

        Sun Studio 11 XEmacs 21.4.12 editor - source distribution (sun-xmsrc)

        Sun Studio 11 XEmacs 21.4.12 - documentation (sun-mrxm)

Sun Studio 11 DBX Debugging Tools (SPROCDBX)

        Sun Studio 11 Debugging Tools (sun-dbx)

        Sun Studio 11 update 1 Debugging Tools (sun-dbxx)

        Sun Studio 11 Debugging Tools (sun-jdbx)

        Sun Studio 11 Man Pages/Online Info for dbx (sun-mrdbx)

        Serial Number Installation Tool and Misc files (SPROCMISC)

Sun Studio 11 Performance Tools (SPROCPRFT)

        Sun Studio 11 Performance Analyzer Tools (sun-prfan)

        Sun Studio 11 Performance Analyzer 64-bit Tools(sun-prfax)

        Sun Studio 11 Performance Analyzer GUI (sun-prfgn)

        Sun Studio 11 Performance Analyzer Library API (sun-prflb)

        Sun Studio 11 Performance Analyzer 64-bit Library API (sun-prflx)

        Sun Studio 11 DwarfSupportLibrary binaries (sun-dwrfb)

        Sun Studio 11 DwarfSupportLibrary man pages (sun-mrdwf)

        Sun Studio 11 Analyzer/Collector Command-Line Man Pages (sun-mrpan)

        Sun Studio 11 Analyzer/Collector GUI Online Help and Man Pages (sun-mrpgn)

        Serial Number Installation Tool and Misc files (SPROCMISC)

Version Numbers of Sun Studio 11 Software Components

This appendix provides the version numbers of the components that are included in the Sun Studio 11 software.

TABLE B-1 lists the version numbers of the components.

TABLE B-1   Version Numbers of Components of Sun Studio 11 Software

Component	Version Number
dbx	7.5
dmake	7.7
Performance Analyzer	7.5
X-Designer	7.8

Glossary

batch installer   The batch installer is an installer packaged with the product that can install each product component from the command-line with minimal user interaction.

display computer   The computer that displays the installer window or command-line installer. For installation using a local display, the display computer and the source computer are the same computer. For installation using a remote display, the display computer and the source computer are different computers.

installation directory   The directory in which you install Sun Studio 11 software products and licenses. The default directory is `/opt/sun` on the source computer.

local display   An installation method where the product CD-ROM or downloaded product software is on the same computer that you use to perform the installation. The source computer runs the installer, and the installer window is displayed on the monitor that is attached to the source computer.

remote display   An installation method where the product CD-ROM or downloaded product software is on a different computer than the installer window or command-line installer. You use the `rlogin` command to log in to the source computer that contains the product CD-ROM or downloaded files. You set the `DISPLAY` environment variable to display the installer window on the monitor that is attached to the display computer. The installer runs on the source computer, but the installer window or command-line installer is displayed on the display computer.

source computer   The machine that runs the installer. The source computer contains the product CD-ROM or the downloaded product software.

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