



Sun™ ONE Studio 4, Mobile Edition Getting Started Guide

Sun Microsystems, Inc.
4150 Network Circle
Santa Clara, CA 95054 U.S.A.
650-960-1300

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Before You Begin

This document provides installation instructions for the Sun™ Open Net Environment (Sun ONE) Studio 4 update 1, Mobile Edition integrated development environment (IDE). Topics covered include:

- Overview of the installation steps
- System requirements
- Supported platforms
- Installation of Java™ 2 Platform, Standard Edition (J2SE™), v. 1.4.0_02
- Contents of top-level directories of the IDE
- Registering with Sun ONE Studio Developer Resources
- Updating modules with the Update Center
- Uninstalling the IDE
- Using the startup command-line switches
- Other documentation resources

See the release notes for a list of environments in which you can create the examples in this book. The release notes are available on this web page:

<http://forte.sun.com/ffj/documentation/index.html>

Screen shots vary slightly from one platform to another. You should have no trouble translating the slight differences to your platform. Although almost all procedures use the interface of the Sun ONE Studio 4 software, occasionally you might be instructed to enter a command at the command line. Here too, there are slight differences from one platform to another. For example, a Microsoft Windows command might look like this:

```
c:>cd MyWorkDir\MyPackage
```

To translate for UNIX® or Linux environments, simply change the prompt and use forward slashes:

```
% cd MyWorkDir/MyPackage
```

Before You Read This Book

Before you continue with the rest of this guide, you should be familiar with the process of installing and uninstalling software products on the platforms you choose to use with this release of the Sun ONE Studio 4 product. You need familiarity with some system administrative commands, such as:

- `patchadd`, `pkgadd`, `patchrm`, and `pkgrm` utilities in the Solaris™ operating environment
- Add/Remove Program utility on the Microsoft Windows systems
- `rpm` command in the Red Hat Linux environment

If you are unsure about the system administrative commands for your environment or system, contact your system administrator for assistance with the instructions contained in this guide.

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How This Book Is Organized

Chapter 1 gives an overview of the general installation process and information on system requirements for Sun ONE Studio 4, Mobile Edition.

Chapter 2 provides instructions on installing and uninstalling the J2SE, v. 1.4.0_02 platform on your system.

Chapter 3 describes the steps to install the Mobile Edition IDE on the supported platforms. The subdirectories installed with the IDE are described and uninstallation instructions are also provided.

Chapter 4 gives instructions on how to start and set up the newly installed Mobile Edition IDE. The command-line options are provided and information about product registration is also included.

Chapter 5 describes steps to update the IDE modules using the Sun ONE Studio Update Center. Information about other documentation resources are also included in this chapter.

Chapter 6 provides you with some troubleshooting hints to assist you with problems you might encounter during the installation and setup process.

Appendix A lists the patches for the Solaris 8 operating environment that are included with the Solaris patch installer for the Solaris operating environment (SPARC™ platform).

Typographic Conventions

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

Related Documentation

Sun ONE Studio 4 documentation includes books delivered in Acrobat Reader (PDF) format, release notes, online help, readme files for example applications, and Javadoc™ documentation.

Documentation Available Online

The documents described in this section are available from the `docs.sun.com`SM web site and from the documentation page of the Sun ONE Studio Developer Resources portal (<http://forte.sun.com/ffj/documentation>).

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 installed with the product on your local system or network.

- Release notes (HTML format)

Available for each Sun ONE Studio 4 edition. Describe last-minute release changes and technical notes.

- Getting Started guides (PDF format)

Describe how to install the Sun ONE Studio 4 integrated development environment (IDE) on each supported platform and include other pertinent information, such as system requirements, upgrade instructions, application server configuration instructions, command-line switches, installed subdirectories, database integration, and information on how to use the Update Center.

- *Sun ONE Studio 4, Community Edition Getting Started Guide* - part no. 817-1144-10
- *Sun ONE Studio 4, Enterprise Edition for Java Getting Started Guide* - part no. 817-1143-10
- *Sun ONE Studio 4, Mobile Edition Getting Started Guide* - part no. 817-1145-10

- Sun ONE Studio 4 Programming Series (PDF format)

This series provides in-depth information on how to use various Sun ONE Studio 4 features to develop well-formed applications for the Java 2 platform, Enterprise Edition (J2EE platform).

- ***Building Web Components*** - part no. 816-7869-10
Describes how to build a web application as a J2EE web module using JavaServer Pages™ (JSP™) technology, servlets, tag libraries, and supporting classes and files.
- ***Building J2EE Applications*** - part no. 816-7863-10
Describes how to assemble Enterprise JavaBeans™ (EJB™) modules and web modules into a J2EE application, and how to deploy and run a J2EE application.
- ***Building Enterprise JavaBeans Components*** - part no. 816-7864-10
Describes how to build EJB components (session beans, message-driven beans, and entity beans with container-managed or bean-managed persistence) using the Sun ONE Studio 4 EJB Builder wizard and other components of the IDE.
- ***Building Web Services*** - part no. 816-7862-10
Describes how to use the Sun ONE Studio 4 IDE to build web services, to make web services available to others through a UDDI registry, and to generate web service clients from a local web service or a UDDI registry.
- ***Using Java DataBase Connectivity*** - part no. 816-7870-10
Describes how to use the JDBC™ productivity enhancement tools of the Sun ONE Studio 4 IDE, including how to use them to create a JDBC application.
- **Sun ONE Studio 4 tutorials (PDF format)**
These tutorials demonstrate how to use the major features of each Sun ONE Studio 4 edition.
 - ***Sun ONE Studio 4, Mobile Edition Tutorial*** - part no. 816-7868-10
Provides step-by-step instructions for building a simple J2EE web application.
 - ***Sun ONE Studio 4, Enterprise Edition for Java Tutorial*** - part no. 816-7860-10
Provides step-by-step instructions for building an application using EJB components and Web Services technology.
 - ***Sun ONE Studio 4, Mobile Edition Tutorial*** - part no. 816-7873-10
Provides step-by-step instructions for building a simple application for a wireless device, such as a cellular phone or personal digital assistant (PDA). The application will be compliant with the Java 2 Platform, Micro Edition (J2ME™ platform) and conform to the Mobile Information Device Profile (MIDP) and Connected, Limited Device Configuration (CLDC).

You can also find the completed tutorial applications at:

<http://forte.sun.com/ffj/documentation/tutorialsandexamples.html>

Online Help

Online help is available inside the Mobile Edition IDE. You can open help by pressing the help key (F1 in Microsoft Windows and Linux environments, Help key in the Solaris environment), or by choosing Help → Contents. Either action displays a list of help topics and a search facility.

Examples

You can download examples that illustrate a particular Sun ONE Studio 4 feature, as well as completed tutorial applications, from the Sun ONE Studio Developer Resources portal at:

<http://forte.sun.com/ffj/documentation/tutorialsandexamples.html>

Javadoc Documentation

Javadoc documentation is available within the IDE for many Sun ONE Studio 4 modules. Refer to the release notes for instructions on installing this documentation. When you start the IDE, you can access this Javadoc documentation within the Javadoc pane of the Explorer.

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Please include the part number (817-1145-10) of your document in the subject line of your email.

Preparing for Installation

This chapter contains information needed to prepare for the installation of the Sun ONE Studio 4 update 1, Mobile Edition IDE (hereafter referred to as “Mobile Edition IDE” or “the IDE”).

Overview of the Installation

The following steps outline the general process of installing the Mobile Edition IDE on your system. This process includes the validation, customization, and registration of your Mobile Edition IDE installation:

1. Verify that you have local or network access to either the Java 2 Platform, Standard Edition, v. 1.3.1 (hereafter referred to as “J2SE, v. 1.3.1 platform”) or the Java 2 Platform, Standard Edition, v. 1.4.0_02 from the system in which you plan to install the Mobile Edition IDE.

Note – The recommended option is the J2SE, v. 1.4.0_02 platform with the Mobile Edition IDE. Read Chapter 2 for detailed installation instructions.

2. Verify that the system on which you are installing the Mobile Edition IDE software meets the minimum system requirements. See “System Requirements” on page 13 for more information.
3. Determine which software you want the Sun ONE Studio 4 installer to install. The Sun ONE Studio 4 update 1, Mobile Edition installer includes the following software:
 - Core Platform and Modules
 - J2ME™ Wireless Toolkit, version 1.0.4

4. Determine if you want to keep your previous version of the Mobile Edition IDE. If you do, identify a different directory in which to install the Sun ONE Studio 4 update 1, Mobile Edition.

If you want to use the same installation directory as the previous IDE version, you must first uninstall the previous version of the IDE before installing Sun ONE Studio 4 update 1, Mobile Edition.

5. Determine whether you want to keep your current Mobile Edition IDE user settings. If you decide to use your current user settings with the new IDE version, you need to specify the location of your current user directory when prompted during the initial IDE setup. Read Chapter 4 for more information.

Note – Because the Community and Enterprise Edition IDEs include several modules not supported by the Mobile Edition IDE, Sun does not recommend using previous settings from the Community and Enterprise Edition IDEs with the Mobile Edition IDE.

6. Install Sun ONE Studio 4 update 1, Mobile Edition. Read Chapter 3 for detailed installation instructions for each of the supported platforms.
7. Set up your initial IDE environment and register the product. Read Chapter 4 for instructions on setting up your user directory and registering the product.

Supported Platforms

The following lists the platforms upon which the Sun ONE Studio 4 update 1, Mobile Edition has been tested. The platforms upon which the J2ME Wireless Toolkit, version 1.0.4 has been tested are also listed.

Note – The platforms supported by the Mobile Edition IDE might differ from those supported by the emulator you plan to use. You should verify that both the Mobile Edition IDE and the emulator you plan to use are supported on your particular platform.

Sun ONE Studio 4 update 1, Mobile Edition has been tested with the following systems:

- Microsoft Windows 2000 Professional system (Service Pack 2)
- Microsoft Windows XP Professional
- Red Hat Linux 7.2
- Solaris 8 operating environment (64-bit, SPARC platform)
- Solaris 9 operating environment (64-bit, SPARC platform)

This release has been tested on a limited basis on the following systems:

- Microsoft Windows 98 Second Edition
- Microsoft Windows NT4, SP6 systems
- Solaris 8 operating environment (32-bit, SPARC platform)
- Solaris 9 operating environment (32-bit, SPARC platform)

The J2ME Wireless Toolkit, version 1.0.4 has been tested with the following systems:

- Microsoft Windows NT 4.0 systems
- Microsoft Windows 2000 systems

The J2ME Wireless Toolkit, version 1.0.4 has been tested on a limited basis with the following, unsupported systems:

- Microsoft Windows 98 Second Edition
- Solaris 8 operating environment
- Red Hat Linux 6.2
- Red Hat Linux 7.1

System Requirements

TABLE 1-1 lists the system requirements needed to install a minimum configuration on any of the supported platforms.

TABLE 1-1 Sun ONE Studio 4, Mobile Edition System Requirements

Mobile Edition Supported Platforms ¹	Free Hard Disk Space for User Directory Required for Installation	Free Hard Disk Space Required for Installation	Minimum Configuration
Windows 2000, Windows XP Professional, Windows NT4, SP6 ²	10 MB	100 MB	Pentium III, 350 MHz, 128 MB RAM
Red Hat Linux 7.2	10 MB	100 MB	Pentium III 350 Mhz, 128 MB RAM
Solaris 8, Solaris 9 operating environments (64-bit and 32-bit, SPARC platforms)	10 MB	100 MB	Ultra 10, 333 MHz, 128 MB RAM

1 The J2ME Wireless Toolkit, version 1.0.4 might not be supported on all platforms listed in this table.

2 This release has been tested on a limited basis on the Microsoft Windows NT4 SP6 systems, and the Solaris 8 and Solaris 9 (32-bit, SPARC platform) environments

These are general guidelines. Your requirements might vary depending on which additional software you have installed for use with the Sun ONE Studio 4, Mobile Edition IDE.

Installing the J2SE, v. 1.4.0 Platform

This chapter gives instructions for verifying the version of the J2SE platform to which you currently have access. If you need to install the J2SE, v. 1.4.0_02 platform on your system, this chapter also gives step-by-step instructions for installing the software on all the supported platforms. The J2SE, v. 1.4.0_02 platform includes the Java 2 Software Development Kit, Standard Edition (Java 2 SDK) and the Java 2 Runtime Environment, Standard Edition (JRE).

Verifying Your J2SE Platform Version

To use the Mobile Edition IDE, you must have one of the following:

- J2SE, v. 1.3.1 or J2SE, v. 1.4.0_02 platform installed on your system
- Network access to the path in which v. 1.3.1 or v. 1.4.0_02 of the J2SE platform is installed

If you run the IDE without v. 1.3.1 or v. 1.4.0 of the J2SE platform installed or available, you get error and warning messages. Version 1.4.0_02 is preferred.

Note – To maximize runtime performance, the J2SE platform should be installed on and accessed from your local system.

Use the following steps to help you determine what you need to do next:

1. Identify which Java software is available to your system.

- On a Microsoft Windows system, type the following in a command prompt window:

```
C:\>java -version
```

The output looks similar to the following:

```
C:\>java -version
java version "1.4.0"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.4.0-b92)
Java HotSpot(TM) Client VM (build 1.4.0-b92, mixed mode)
```

- In a Solaris or Linux environment, type the following:

```
% java -version
```

The output looks similar to the following:

```
% java -version
java version "1.4.0"
Java(TM) 2 Runtime Environment, Standard Edition (build 1.4.0-b92)
Java HotSpot(TM) Client VM (build 1.4.0-b92, mixed mode)
```

If you do not have v. 1.3.1 or v. 1.4.0_02 of the J2SE platform available to your system, you must install the supported J2SE, v. 1.4.0_02 platform.

2. **If you do not have v. 1.3.1 or v. 1.4.0_02 of the J2SE platform available to your system, do the following:**

- a. **Obtain the J2SE, v. 1.4.0_02 installer from**

<http://www.sun.com/software/sundev/jde/buy/index.html> **or from the Sun ONE Studio 4 product CD.**

- b. **Install the J2SE, v. 1.4.0_02 platform on your system.**

Read the section following for additional instructions for your specific system.

3. **(Solaris only) If the J2SE, v. 1.4.0_02 platform is already installed on your system, install any Solaris patches that are applicable to your Solaris 8 operating environment.**

If you do not have the required Solaris patches when you start the Mobile Edition IDE, you receive a message that includes the Solaris patches you need to install on your system. Install the patches on your system or contact your system administrator before proceeding to use the Mobile Edition IDE.

The `solaris_patch_installer`, provided with the Sun ONE Studio 4 CD and also available from the Sun ONE Studio 4 product download page, includes the Solaris patch packages you need to install in your Solaris 8 operating environment.

If you have previously installed the J2SE, v. 1.4.0_02 platform, you can use the `solaris_patch_installer` to determine if all the necessary Solaris patches are already installed in your system.

“Installing Patches in a Solaris 8 Operating Environment” on page 22 provides you with instructions on how to use the `solaris_patch_installer` script.

Note – For a complete list of the Solaris patches included with the `solaris_patch_installer` script, see Appendix A.

Installing the J2SE Platform on Microsoft Windows Systems

Note – If you are unfamiliar with or unsure about installing the J2SE, v. 1.4.0_02 platform on your Microsoft Windows system, contact your system administrator for assistance.

To install the J2SE, v. 1.4.0_02 platform on your supported Microsoft Windows system, follow these steps:

1. **If you have not already done so, download the `j2sdk-1_4_0_02-windows-i586.exe` installer file from <http://www.sun.com/software/sundev/jde/buy/index.html> into *j2se-directory* or locate the installer on the Sun ONE Studio 4 product CD.**

Note – Ensure that the *j2se-directory*, in which you download the software, is located on a disk that has plenty of available space. See “System Requirements” on page 13 for details.

Use the following information if you are accessing the installer file from the download page for the J2SE, v. 1.4.0_02 platform. Otherwise, proceed to Step 2.

- a. **In the “Before You Download” section of the <http://www.sun.com/software/sundev/jde/buy/index.html> download page, click Java 2 Platform, Standard Edition, v. 1.4.0 to download the installer file for the J2SE, v. 1.4.0_02 platform.**

The Java 2 Platform, Standard Edition, v. 1.4.0 Overview page is displayed.

b. Click “Download J2SE v. 1.4 Now!”

The Java 2 Platform, Standard Edition download page is displayed.

- From the SDK column of the Download J2SE, v. 1.4.0 table, click **DOWNLOAD** for Windows (all languages, including English).

The binary code license agreement is displayed.

c. Read the binary code license agreement carefully. To proceed, accept the terms of the license agreement.

You must agree to the license to continue with the download. Once you have agreed to the license agreement, the download page is displayed.

d. Click Download `j2sdk-1_4_0_02-windows-i586.exe` to proceed with the download of the file and specify where you want to save the file.

e. Verify that the size of the downloaded file is the same as the file size indicated on the download page.

This step ensures that you have downloaded the full and uncorrupted software bundle.

2. Uninstall any prerelease versions of the J2SE, v. 1.4.0_02 platform currently installed on your system.

If you have previously installed a Beta release or the Release Candidate version of the J2SE, v. 1.4.0_02 platform, uninstall it. Use the Microsoft Windows Add/Remove Programs utility to uninstall the previous release of the J2SE, v. 1.4.0_02 platform. Choose Start → Settings → Control Panel to access the Add/Remove Programs utility.

3. Start the installation wizard by double-clicking the `j2sdk-1_4_0_02-windows-i586.exe` file in the *j2se-directory* or from the Sun ONE Studio 4 product CD.

Note – You must have administrative permissions to install the J2SE, v. 1.4.0_02 platform in a Windows XP or Windows 2000 system.

4. Follow the instructions on the wizard panes to complete the J2SE, v. 1.4.0_02 platform installation on your Microsoft Windows system.

5. (Optional) Delete the downloaded file from the *j2se-directory* to recover disk space.

Continue to Chapter 3 for instructions on installing the Mobile Edition IDE.

Installing the J2SE Platform in the Linux Environment

Note – If you are unfamiliar with or unsure about installing the J2SE, v. 1.4.0_02 platform in your environment, contact your system administrator for assistance.

To install the J2SE, v. 1.4.0_02 platform in your supported Linux environment, follow these steps:

1. **If you have not already done so, download the `j2sdk-1_4_0_02-linux-i586-rpm.bin` file into *j2se-directory* or locate the file on the Sun ONE Studio 4 product CD.**

Note – Ensure that the *j2se-directory*, in which you download the software, is located on a disk that has plenty of available space. See “System Requirements” on page 13 for more information.

Use the following information if you are accessing the installer file from the download page for the J2SE, v. 1.4.0_02 platform. Otherwise, proceed to Step 2.

- a. **In the “Before You Download” section of the <http://www.sun.com/software/sundev/jde/buy/index.html> download page, click Java 2 Platform, Standard Edition, v. 1.4.0 to download the installer file for the J2SE, v. 1.4.0_02 platform.**
The Java 2 Platform, Standard Edition, v. 1.4.0 Overview page is displayed.
- b. **Click “Download J2SE v. 1.4 Now!”**
The Java 2 Platform, Standard Edition download page is displayed.
- c. **From the SDK column of the Download J2SE, v. 1.4.0_02 table, click DOWNLOAD for Linux Red Hat.**
The binary code license agreement is displayed.
- d. **Read the binary code license agreement carefully. To proceed, accept the terms of the license agreement.**
You must agree to the license to continue with the download. Once you have agreed to the license agreement, the download page is displayed.
- e. **Click Download `j2sdk-1_4_0_02-linux-i586-rpm.bin` and specify the directory, *j2se-directory*, in which you want to save the file.**

- f. **Verify that the size of the downloaded file is the same as the file size indicated on the download page.**

This step ensures that you have downloaded the full and uncorrupted software bundle.

2. **Double-click the `j2sdk-1_4_0_02-linux-i586-rpm.bin` file on the Sun ONE Studio 4 product CD or type the following commands:**

```
$ cd j2se-directory
$ chmod a+x j2sdk-1_4_0_02-linux-i586-rpm.bin
$ j2sdk-1_4_0_02-linux-i586-rpm.bin
```

The script displays the binary license agreement.

3. **Read the binary license agreement carefully. To proceed, accept the terms of the license agreement.**

You must agree to the license to continue with the installation.

Once you have agreed to the license agreement, the install script creates the `j2sdk-1_4_0_02-linux-i586-rpm.bin` file in the current directory.

4. **Become a superuser (root) by typing the following in a terminal window:**

```
$ su
Password: root-password
```

5. **Uninstall any prerelease versions of the J2SE, v. 1.4.0_02 platform currently installed on your system.**

If you have previously installed a Beta release or the Release Candidate version of the J2SE, v. 1.4.0_02 platform, uninstall it.

Note – The default installation location for the prerelease versions of the J2SE platform is `/usr/java/j2sdk1.4.0`. That location is the same location in which the RPM package of the final version of the J2SE, v. 1.4.0_02 platform is installed. To clear the way for installation of the final version of the J2SE, v. 1.4.0 platform, you must first uninstall any of these previous releases that you have installed. Skip this step if you have not installed any of these previous releases.

If you are not sure if you have a prerelease version installed in your system, run the following command:

```
# rpm -query -a | grep j2sdk-1.4.0
```

The output displays the RPM package name of the prerelease version of the J2SE, v. 1.4.0_02 platform. For example, if the J2SE 1.4.0 Beta 3 version is installed, the command returns the RPM package name for Beta 3, which is `j2sdk-1.4.0-beta3`.

If you determine that a Beta package is installed, uninstall it using the `rpm` command. For example, to remove the Beta 3 version of the J2SE, v. 1.4.0_02 platform, type the following:

```
# rpm -e j2sdk-1.4.0-beta3
```

6. Run the `rpm` command to install the package for the J2SE, v. 1.4.0_02 platform by typing the following:

```
# cd j2se-directory  
# rpm -iv j2sdk-1_4_0_02-linux-i586.rpm
```

The packages for the J2SE, v. 1.4.0_02 platform are installed in `/usr/java/j2sdk1.4.0`.

7. Exit from your superuser privileges by typing:

```
# exit
```

Continue to Chapter 3 for instructions on installing the Mobile Edition IDE.

Installing the J2SE Platform in the Solaris Operating Environment

You must first install any Solaris patches required in your Solaris 8 operating environment (SPARC platform) before proceeding with the installation of the J2SE, v. 1.4.0_02 platform. Use the steps in the next section to guide you in the installation of the Solaris patches and the J2SE, v. 1.4.0_02 platform.

Note – The Solaris 9 environment is preconfigured with the J2SE, v.1.4.0 platform. To install the J2SE, v.1.4.0_02 platform, download the latest patches from java.sun.com/j2se/1.4/download.html and follow the directions provided for installing the J2SE, v.1.4.0_02 platform in a Solaris 8 operating environment.

Installing Patches in a Solaris 8 Operating Environment

Note – If you are unsure about installing Solaris patches in your Solaris environment, contact your Solaris system administrator for assistance.

These instructions describe how to install the necessary Solaris patches prior to the installation of the J2SE, v. 1.4.0_02 platform. These instructions are applicable only in a Solaris 8 operating environment. Refer to Appendix A for a list of the Solaris patches included with the `solaris_patch_installer`.

1. **If you have not already done so, download the `solaris_patch_installer.tar.gz` file into the *solaris-patches-directory* from <http://www.sun.com/software/sundev/jde/buy/index.html> or from the Sun ONE Studio 4 product CD.**

Note – Ensure that the *solaris-patches-directory*, in which you download the software, is located on a disk that has plenty of available space. See “System Requirements” on page 13 for details.

2. From the *solaris-patches-directory*, uncompress and extract the contents of the downloaded file by typing:

```
% cd solaris-patches-directory
% gzcat solaris_patch_installer.tar.gz | tar xvf -
```

Note – The `gzcat` utility can be found in the `/usr/bin` directory in the Solaris 8 operating environment.

The `solaris_patch_installer` file and the `patches` directory are extracted in the *solaris-patches-directory*. The `patches` directory contains several subdirectories for each of the required Solaris patches.

3. (Optional) To recover disk space, remove the downloaded file by typing:

```
% rm -rf solaris_patch_installer.tar.gz
```

4. Become a superuser (root) by typing the following in a terminal window:

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

5. Go to the *solaris-patches-directory* and run the `solaris_patch_installer` script:

```
# cd solaris-patches-directory
# ./solaris_patch_installer
```

The `solaris_patch_installer` determines which of the patches needed for the installation of the J2SE, v. 1.4.0_02 platform have already been applied and which patches still need to be installed.

You see output similar to the following:

```
# ./solaris_patch_installer
Solaris Patch Installer for J2SE, v.1.4.0
Installing 109147-14...already applied

Installing 108434-06...successfully installed

Installing 108435-06...successfully installed

Installing 111293-04...attempting to patch a package that is not
installed

Installing 112334-01...already applied
```

6. (Optional) After the patch installation is complete, look at the `/var/tmp/solaris_patch_installer.log` file for more details about the installation.

Note – Some Solaris patches require that you reboot your system after installation has completed. The installer prompts you to reboot, if necessary.

7. When prompted, reboot your system by typing `y`:

```
# Certain patches installed on your system require that you reboot
your machine.
Do you want to REBOOT your machine now? (y/n)
```

8. If you are not prompted to reboot, exit from your superuser privileges by typing `exit`:

```
# exit
```


9. (Optional) After you log back on to your system, remove the *solaris-patches-directory* and its contents to recover disk space. Type the following:

```
% rm -rf solaris-patches-directory
```

Installing the J2SE Platform in a Solaris 8 Environment

Note – If you are unsure about installing Solaris packages or the J2SE, v. 1.4.0_02 platform in your Solaris environment, contact your Solaris system administrator for assistance.

Prior to installing the J2SE, v. 1.4.0_02 platform, you must ensure that you have installed the full set of required patches needed to support v. 1.4.0 of the J2SE platform in your Solaris 8 environment. See “Installing Patches in a Solaris 8 Operating Environment” on page 22 for more information.

To install the 64-bit J2SE, v. 1.4.0_02 platform in your 64-bit Solaris 8 environment, you must follow a two-step procedure:

1. **Install the 32-bit J2SE, v. 1.4.0 platform in your 64-bit Solaris 8 environment.**
Use the instructions in “Installing the J2SE Platform in a 32-bit Solaris 8 Environment” on page 25 for more information.
2. **Install the J2SE, v. 1.4.0 supplemental release for 64-bit operation in your 64-bit Solaris 8 environment.**
Follow the instructions in the next section.

Installing the J2SE Platform in a 32-bit Solaris 8 Environment

Note – If you are unsure about installing Solaris packages or the J2SE, v. 1.4.0_02 platform in your Solaris environment, contact your Solaris system administrator for assistance.

Follow these steps to install the J2SE, v. 1.4.0_02 platform in your supported Solaris operating environment using the `pkgadd` command:

- 1. If you have not already done so, download the `j2sdk-1_4_0_02-solaris-sparc.tar.z` file into the *j2se-directory*. You can also obtain the file from the Sun ONE Studio 4 companion CD.**

Note – Ensure that the *j2se-directory*, in which you download the software, is located on a disk that has plenty of available space.

If you are accessing the installer file from the Sun ONE Studio 4 product CD, skip to Step e.

a. In the “Before You Download” section of the

<http://www.sun.com/software/sundev/jde/buy/index.html> **download page, click Java 2 Platform, Standard Edition, v. 1.4.0 to download the installer file for the J2SE, v. 1.4.0_02 platform.**

The Java 2 Platform, Standard Edition, v. 1.4.0 Overview page is displayed.

b. Click “Download J2SE v. 1.4 Now!”

The Java 2 Platform, Standard Edition download page is displayed.

c. From the SDK column of the Download J2SE, v. 1.4.0 table, click **DOWNLOAD for Solaris SPARC 32-bit tar.Z.**

The binary code license agreement is displayed.

d. Read the binary code license agreement carefully. To proceed, accept the terms of the license agreement.

You must agree to the license to continue with the download. Once you have agreed to the license agreement, the download page is displayed.

e. Click **Download `j2sdk-1_4_0_02-solaris-sparc.tar.z` from the product download page or obtain the file from the Sun ONE Studio 4 companion CD, and save the file to the *j2se-directory*.**

f. Verify that the size of the downloaded file is the same as the file size indicated on the download page or from the Sun ONE Studio 4 companion CD.

This ensures that you have downloaded the full and uncorrupted software bundle.

2. From the *j2se-directory*, uncompress and extract the contents of the downloaded installer file by typing the following at the command line:

```
% cd j2se-directory  
% zcat j2sdk-1_4_0_02-solaris-sparc.tar.z | tar xvf -
```

This action creates several packages (SUNWj3dmo, SUNWj3dev, SUNWj3man, SUNWj3rt, plus SUNWj3jmp for Japanese man pages) along with the product license, readme file, and other release documentation.

3. Become a superuser (root) by typing the following in a terminal window:

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

4. Uninstall your previous installation of the J2SE platform, if needed.

Note – The default installation location for versions 1.3.0, 1.3.1, and the previous 1.4.0 Beta release of the J2SE platform is `/usr/j2se`. That location is the same place in which J2SE, v. 1.4.0 is installed. To clear the way for installation of the J2SE, v. 1.4.0 platform, you must first uninstall any of these previous releases that you have installed. Skip this step if you have not installed any of these previous releases or if you intend to install J2SE, v. 1.4.0 in a nondefault location.

If you have previously installed the packages for J2SE versions 1.3.0, 1.3.1, or 1.4.0 prereleases, remove them by using the `pkgrm` command:

```
# pkgrm SUNWj3dmo SUNWj3man SUNWj3dev SUNWj3rt
```

If you have previously installed packages `SUNWlj3dv` and `SUNWlj3rt` for localization support in version 1.3.0, remove them by using the following command:

```
# pkgrm SUNWlj3dv SUNWlj3rt
```

If you have previously installed the Japanese man page packages for the Java 2 SDK v. 1.3.0 or v. 1.3.1, remove them by using the following command:

```
# pkgrm SUNWjej3m SUNWj3m SUNWjuj3m
```

If your `/usr/java` symbolic link was pointing to the Java 2 SDK v. 1.2.2 installation at `/usr/java1.2`, you might want to update it to point to `/usr/j2se`, which is the location where the Java 2 SDK v. 1.4.0 will be installed.

5. Run the `pkgadd` command to install the packages:

```
# cd j2se-directory  
# pkgadd -d . SUNWj3rt SUNWj3dev SUNWj3man SUNWj3dmo
```

The J2SE v. 1.4.0 packages are installed into `/usr/j2se`. Refer to the `pkgadd(1)` and `admin(4)` man pages for information on installing the J2SE, v. 1.4.0 in a nondefault location.

6. (Optional) Remove the `j2se-directory` to recover disk space:

```
# rm -rf j2se-directory
```

7. Exit from your superuser privileges by typing:

```
# exit
```

If you need to install the J2SE, v. 1.4.0 supplemental release platform, continue to the next section for more information.

Otherwise, continue to Chapter 3 for instructions on installing the Sun ONE Studio 4 software.

Installing the J2SE, v. 1.4.0_02 Supplemental Release for 64-bit Operation in a Solaris 8 Environment

Note – If you are unsure about installing Solaris packages or the J2SE, v. 1.4.0_02 platform in your Solaris environment, contact your Solaris system administrator for assistance.

Follow these steps to install the 64-bit supplemental release of the J2SE, v. 1.4.0_02 platform in your Solaris 8 environment:

1. **If you have not already done so, download the `j2sdk-1_4_0_02-solaris-sparcv9.tar.Z` file into the `j2se-64bit-directory`. You can also obtain the file from the Sun ONE Studio 4 companion CD.**

Note – Ensure that the `j2se-64bit-directory`, in which you download the software, is located on a disk that has plenty of available space.

If you are accessing the installer file from the Sun ONE Studio 4 companion CD, skip to Step e.

a. In the “Before You Download” section of the

<http://www.sun.com/software/sundev/jde/buy/index.html> **download page, click Java 2 Platform, Standard Edition, v. 1.4.0 to download the installer file for the J2SE, v. 1.4.0_02 platform.**

The Java 2 Platform, Standard Edition, v. 1.4.0 Overview page is displayed.

b. Click “Download J2SE v. 1.4 Now!”

The Java 2 Platform, Standard Edition download page is displayed.

c. From the SDK column of the Download J2SE, v. 1.4.0 table, click DOWNLOAD for Solaris SPARC 64-bit tar.Z.

The binary code license agreement is displayed.

- d. **Read the binary code license agreement carefully. To proceed, accept the terms of the license agreement.**

You must agree to the license to continue with the download. Once you have agreed to the license agreement, the download page is displayed.

- e. **Click Download `j2sdk-1_4_0_02-solaris-sparcv9.tar.Z` from the companion CD, and specify where you want to save the file.**
- f. **Verify that the size of the downloaded file is the same as the file size indicated on the download page or from the Sun ONE Studio 4 companion CD.**

This step ensures that you have downloaded the full and uncorrupted software bundle.

2. **From the `j2se-64bit-directory`, uncompress and extract the contents of the downloaded installer file by typing the following at the command line:**

```
% cd j2se-64bit-directory
% zcat j2sdk-1_4_0_02-solaris-sparcv9.tar.Z | tar xvf -
```

This action creates several packages (`SUNWj3dvx`, `SUNWj3rtx`, and `SUNWj3dmx`) that contain 64-bit support for the J2SE, v. 1.4.0_02 platform.

3. **Become a superuser (root) by typing the following in a terminal window:**

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

4. **Uninstall your Beta installation of the 64-bit packages for the J2SE, v.1.4.0, if needed.**

If you have previously installed the Beta release of packages `SUNWj3dvx`, `SUNWj3rtx`, and `SUNWj3dmx` for 64-bit support, remove them using the command:

```
# pkgrm SUNWj3rtx SUNWj3dvx SUNWj3dbx
```

5. **Run the `pkgadd` command to install the packages:**

```
# cd j2se-64bit-directory
# pkgadd -d . SUNWj3rtx SUNWj3dvx SUNWj3dmx
```

This action installs the files for 64-bit support into the J2SE v. 1.4.0 installation at `/usr/j2se`.

6. (Optional) Remove the *j2se-64bit-directory* to recover disk space:

```
# rm -rf j2se-64bit-directory
```

7. Exit from your superuser privileges by typing:

```
# exit
```

Continue to Chapter 3 for instructions on installing the Mobile Edition IDE.

Uninstalling the J2SE, v. 1.4.0_02 Platform

Use the following information to uninstall the J2SE, v. 1.4.0_02 platform:

- In a Microsoft Windows system, use the Add/Remove Programs utility in the Control Panel to uninstall the J2SE, v. 1.4.0_02 platform from your system.
- For a Red Hat Linux environment, use the `rpm` command to uninstall the J2SE, v. 1.4.0_02 platform from your system.
- For Solaris operating environments, use the `pkgrm` and `patchrm` commands to uninstall the J2SE, v. 1.4.0_02 platform and associated Solaris patches from your system.



Caution – Removing the J2SE, v. 1.4.0_02 platform software and related Solaris patches can cause regressive behavior on your system. Contact your Solaris system administrator if you are unfamiliar with or unsure of how to remove the J2SE, v. 1.4.0_02 platform and associated Solaris patches from your system.

Refer to the `pkgrm` and `patchrm` man pages for additional information on these commands.

Installing the Mobile Edition IDE

This chapter provides step-by-step instructions on how to install your Sun ONE Studio 4, Mobile Edition software from the product CD or from files downloaded electronically from the web. It contains installation instructions for each of the supported platforms. The subdirectories installed with the IDE are described, and uninstallation instructions are also provided.

You can install Sun ONE Studio 4, Mobile Edition as a standalone product or as part of a suite of products. When you install using the CD-ROM, you can select the product configuration during the install process. If you acquire this software as part of an electronic download, the product selection is already set for you when you start the installer.

If you want to use the Palm OS Emulator (included with the J2ME Wireless Toolkit) with the Mobile Edition IDE, you should install the emulator before installing the IDE. See “Configuring the Palm OS Emulator” on page 45 for more information.

Supporting Previous Software Releases

This section applies to users of the initial release of the Mobile Edition IDE, as well as developers using the J2ME Wireless Toolkit with a previous version of the Community Edition IDE or Enterprise Edition IDE.

To upgrade your previous version of the IDE to Sun ONE Studio 4 update 1, Mobile Edition, you must do one of the following:

- **Determine if you want to keep your previous version of the IDE.** If you do, identify a different directory in which to install Mobile Edition IDE software.

If you want to use the same installation directory as the previous IDE version, you must first uninstall the previous version of the IDE prior to installing the Mobile Edition IDE.

- **Determine whether you want to keep your current IDE user settings.** If you decide to use your current user settings with the new IDE version, you need to specify the location of your current user directory when prompted during the initial IDE setup. Read Chapter 4 for more information.

Note – Because the Community and Enterprise Edition IDEs include several modules not supported by Mobile Edition IDE, Sun does not recommend using previous settings from the Community and Enterprise Edition IDEs with the Mobile Edition IDE.

Creating a Shared Installation

If you want to share a Sun ONE Studio 4 update 1 installation between multiple users, you must install the IDE into a shared directory.

The recommended name for the user directory in a Microsoft Windows system is *drive:fully-qualified-path\ffjuser40me*. This name is entered as the `UserDir` value of the `Software\SunMicrosystems, Inc.\Forte for Java\ME` key in the `HKEY_CURRENT_USER` registry. This value is not deleted when the IDE is uninstalled. If the `UserDir` value is not explicitly deleted from the Microsoft Windows Registry, it will be reused by future installations of this version of the IDE. Refer to the troubleshooting information in Chapter 6, if you want to use a different location for your user directory.

After installation of the IDE in the supported Solaris environment or Linux environment, all user settings are stored in the `ffjuser40me` directory created under each user's home directory. This occurs for both shared and unshared installations.

Installing the Mobile Edition IDE on the Supported Platforms

These instructions describe the installation process for each of the supported platforms. You can install the Mobile Edition IDE in two ways:

- Use the graphical user interface (GUI) installer, described in “Installing the Mobile Edition IDE on the Supported Platforms” on page 34.

- Perform a command-line installation if you do not have graphical user interface capabilities or do not choose to use them, see “Installing the IDE Using the Command-line Options” on page 42.

Ensuring Sufficient Free Disk Space

Running the installer requires 50 megabytes of free disk space in the `/tmp` directory on the computer that contains the product CD-ROM. Ensure that you have this space available before starting the installation process. This requirement applies to all the supported platforms.

Installation on Microsoft Windows Systems

You can install the Mobile Edition IDE on a supported Microsoft Windows system by using the GUI installer on the product CD or downloading an `.exe` file from the product download web page.

Note – You must have the J2SE, v. 1.3.1 platform or J2SE, v. 1.4.0_02 platform installed on your system before installing the IDE. The recommended option is the J2SE, v. 1.4.0_02 platform with the Mobile Edition IDE. Read Chapter 2 for instructions on installing the software.

1. Start the installation.

- If you are installing the IDE from a CD, insert the Sun ONE Studio 4 update 1 product CD. The Product Selection pane appears.
 - If the installer does not start, the auto run feature might be disabled. Follow these steps:
 - a. Click Start, click Run, and browse to the CD directory.**
 - b. Select `startup.exe` and click OK.**
 - c. Click Run (or double-click `setup.exe`).**
 - If you are performing a web installation and have not already done these tasks, you must:
 - a. Download the `ffj_me_win32_en.exe` installer file from the Sun ONE Studio 4 update 1 download page available at:**
`http://www.sun.com/software/sundev/jde/buy/index.html`
 - b. Save the file into the `s1studiodownload` directory.**

- c. **Double-click the `ffj__me_win32_en.exe` file in the `s1studio-download-directory`. The Welcome pane appears.**
- d. **Skip to Step 4.**

Note – If you encounter errors at any point during the Mobile Edition IDE installation, refer to Chapter 6 for troubleshooting hints.

2. **From the Product Selection pane, select Sun ONE Studio 4 update 1, Mobile Edition.**

A brief description of this edition of the IDE appears under the list of products.

3. **Click Install.**

Note – During the installation process, the Installation wizard displays a blue Sun ONE Studio pane with text that states “Launching and Running Installer.” Other installation panes appear in the foreground. Do not close either pane. If you bring the larger blue pane to the foreground, it might hide the secondary installation pane. Keep both panes visible, with the larger blue pane behind the smaller pane.

4. **When the InstallShield wizard's welcome screen appears, click Next to continue.**

The license agreement pane appears.

5. **Read the license agreement carefully. To proceed, accept the terms of the license agreement, and click Next to continue.**

You must agree to the license to continue with the installation.

The installer attempts to locate a compatible Java 2 SDK v. 1.3.1 or v. 1.4.0_02 on your system.

6. **Set the location of compatible Java 2 SDK software, and click Next.**

Sun ONE Studio 4 update 1 requires local or network access to either v. 1.3.1 or v. 1.4.0_02 of the Java 2 SDK software. Specify which installed Java 2 SDK software to use.

7. **Accept the default installation folder, or click Browse to install the IDE in a different directory. Click Next to continue.**

8. **Click Next to confirm the components you want to install.**

The following components are required for installation:

- Core Platform and Modules
- J2ME Wireless Toolkit, version 1.0.4

- 9. Determine whether you want to associate .java and .nbm files with the IDE. Click Next to continue.**

If you decide to associate these file types, the Mobile Edition IDE launches when you open these files.

- 10. Confirm your installation choice in the installation summary pane, and click Next.**

The Installation Wizard installs the Mobile Edition IDE components you selected.

- 11. Review the Release Notes file for important information regarding the release. You can access the Release Notes from either one of these locations:**

- The product CD's `image\Documentation\relnoteme41.html` file
- <http://forte.sun.com/ffj/documentation/index.html>

- 12. Continue to Chapter 4 for information on setting up the Mobile Edition IDE.**

Installation in the Linux Environment

You can install the IDE in a supported Linux environment from the Sun ONE Studio 4 update 1 product CD or by electronically downloading a .bin file from the product download web page.

Note – You must have the J2SE, v. 1.3.1 platform or J2SE, v. 1.4.0_02 platform installed on your system before installing the Mobile Edition IDE. The recommended option is the J2SE, v. 1.4.0_02 platform with the Mobile Edition IDE. Read Chapter 2 for instructions on installing the software.

- 1. Start the installation.**

- If you are installing the software from the Sun ONE Studio 4 update 1 product CD, insert the CD.

- a. Answer yes if you are prompted about whether you want to use Autorun to install the CD. The Product Selection pane appears.**

- b. Continue with Step 2.**

- If you are performing a web installation and have not already done these tasks, you must:

- a. Download the `ffj_me_linux_en.bin` installer file from**

<http://www.sun.com/software/sundev/jde/buy/index.html>

- b. Save the file into the `s1studio-download-directory`.**

c. Set the `DISPLAY` environment variable to display to your local system.

If you are installing to your local system, set the `DISPLAY` environment variable to `:0.0`. If you are using a superuser (root) account or are doing a remote installation, set your superuser session's `DISPLAY` environment variable to display to your local system.

For example, to set the variable from a root account running C-shell, type the following in your superuser session command prompt:

```
# setenv DISPLAY your-local-system:0.0
```

d. Set the execute permission on the `ffj_me_linux_en.bin` file, and execute the file by typing the following:

```
$ cd s1studio-download-directory
$ chmod a+x ffj_me_linux_en.bin
$ ffj_me_linux_en.bin
```

Note – If you encounter errors at any point during the Mobile Edition IDE installation, refer to Chapter 6 for troubleshooting hints.

e. Skip to Step 4.

2. When the Product Selection Wizard appears, select Sun ONE Studio 4 update 1, Community Edition.

A description of this edition of the IDE appears under the list of products.

3. Click Install.

Note – During the installation process, the installation wizard displays a blue Sun ONE Studio pane with text that states “Launching and Running Installer.” Other installation panes appear in the foreground. Do not close either pane. If you bring the larger blue pane to the foreground, it might hide the secondary installation pane. Keep both panes visible, with the larger blue pane behind the smaller pane.

4. When Install Shield Wizard welcome screen appears, click Next to continue.

The license agreement pane appears.

5. **Read the license agreement carefully. To proceed, accept the terms of the license agreement, and click Next.**

You must agree to the license to continue with the installation.

The Installer attempts to locate a compatible Java 2 SDK v. 1.3.1 or v. 1.4.0_02 on your system.

6. **Set the location of compatible Java 2 SDK software and click Next.**

The Mobile Edition IDE requires local or network access to either v. 1.3.1 software or v. 1.4.0 of the Java 2 SDK software. Specify which installed software to use.

7. **Accept the default installation folder, or click Browse to install the IDE in a different directory. Click Next to continue.**

Note – The installation directory name cannot contain any spaces and it must be an empty or new directory.

8. **Click Next to confirm the features listed in the Select Features dialog box.**

The following features are required for installation:

- Core Platform and Modules
- J2ME Wireless Toolkit, version 1.0.4

9. **Confirm your installation choices in the installation summary dialog box and click Next.**

The installation wizard installs the Sun ONE Studio 4 update 1 components you selected.

10. **Review the installation summary pane that displays the directory location of the IDE, the features you have selected, and the total size of the installation. Click Next.**

11. **When the installation is complete, click Finish to exit the installation wizard.**

12. **Review the release notes file for important information regarding the release. You can access the Release Notes from either one of these locations:**

- The product CD's `image\Documentation\relnoteme41.html` file
- <http://forte.sun.com/ffj/documentation/index.html>

13. **Continue to Chapter 4 for information on setting up the Mobile Edition IDE.**

Installation in the Solaris Operating Environments

You can install the IDE in a supported Solaris operating environment by using the product CD or by downloading a .bin file from the product web page.

Note – You must have the J2SE, v. 1.3.1 platform or J2SE, v. 1.4.0_02 platform installed on your system before installing the Mobile Edition IDE. The recommended option is the J2SE, v. 1.4.0_02 platform with the Mobile Edition IDE. Read Chapter 2 for instructions on installing the software.

1. Start the installation.

If you are installing software from the Sun ONE Studio 4 update 1 product CD, insert the CD. (If you are running the Solaris 7 operating environment and you insert the product CD, a message appears stating that the product is not supported on Solaris 7 operating environment.)

a. If you are prompted to use Auto run, answer yes. The Product Selection pane appears.

b. Continue with Step 2.

■ If you are performing a web installation:

a. Download the `ffj_me_solsparc_en.bin` installer file from
`http://www.sun.com/software/sundev/jde/buy/index.html`.

b. Save the file into the `s1studio-download-directory`.

c. Set the `DISPLAY` environment variable to display to your local system.

If you are installing to your local system, set the `DISPLAY` environment variable to `:0.0`. If you are using a superuser (root) account or are doing a remote installation, set your superuser session's `DISPLAY` environment variable to display to your local system.

For example, to set the variable from a root account running a C shell, type the following in your superuser session command prompt:

```
# setenv DISPLAY your-local-system:0.0
```

d. Set the execute permission on the `ffj_me_solsparc_en.bin` file and execute the file by double-clicking it or by typing the following:

```
$ cd s1studio-download-directory
$ chmod a+x ffj_me_solsparc_en.bin
$ ffj_me_solsparc_en.bin
```

Note – If you encounter errors at any point during the Mobile Edition IDE installation, refer to Chapter 6 for troubleshooting hints.

e. Become a superuser (root) by typing the following in a terminal window:

```
$ su
Password: root-password
```

f. Skip to Step 4.

2. From the Product Selection pane, select Sun ONE Studio 4 update 1, Community Edition.

A description of this edition of the IDE appears under the list of products.

3. Click Install.

Note – During the installation process, the installation wizard displays a blue Sun ONE Studio pane with text that states “Launching and Running Installer.” Other installation panes appear in the foreground. Do not close either pane. If you bring the larger blue pane to the foreground, it might hide the secondary installation pane. Keep both panes visible, with the larger blue pane behind the smaller pane.

4. When the InstallShield Wizard’s welcome screen appears, click Next to continue.

The license agreement pane appears.

5. Read the license agreement carefully. To proceed, accept the terms of the license agreement, and click Next to continue.

You must agree to the license to continue with the installation.

The Installer attempts to locate a compatible Java 2 SDK v. 1.3.1 or v. 1.4.0_02 on your system.

6. Set the location of compatible Java 2 SDK software, and click Next.

Sun ONE Studio 4 update 1 requires local or network access to either v. 1.3.1 or v. 1.4.0_02 of the Java 2 SDK software. Specify which installed Java 2 SDK software to use by doing one of the following:

7. Accept the default installation folder, or click Browse to install the IDE in a different directory. Click Next to continue.

Note – The installation directory name cannot contain any spaces, and it must be an empty or new directory.

8. Click Next to confirm the list of components to be installed.

The following features are required for installation:

- Core Platform and Modules

- J2ME Wireless Toolkit, version 1.0.4
9. **Confirm your installation choice in the installation summary pane, and click Next.**
The Installation Wizard installs the Sun ONE Studio 4 update 1 components you selected.
 10. **Review the installation summary pane that displays the directory location of the IDE, the features you have selected, and the total size of the installation. Click Next.**
 11. **When the installation is complete, click Finish to exit the installation wizard.**
 12. **Review the release notes file for important information regarding the release. You can access the release notes from either of these locations:**
 - The product CD's `image\Documentation\relnoteme41.html` file
 - <http://forte.sun.com/ffj/documentation/index.html>
 13. **Continue to Chapter 4 for information on setting up the IDE.**
-

Installing the IDE Using the Command-line Options

If you prefer to install the Mobile Edition IDE using the command line, follow these steps. You need to create a file called *installer.sp* and add to the file the installation command-line options you want to use to install the IDE.

1. **If you have not already done so, download the installer file for your supported platform from**
<http://www.sun.com/software/sundev/jde/buy/index.html> **or locate the file on the Sun ONE Studio 4 update 1 product CD. Save the installer file into the *s1studio-download-directory*.**

Download the installer file specific to your platform:

- On a Microsoft Windows systems, download the `ffj_me_win32_en.exe` file.
- In a Solaris environment, download the `ffj_me_solsparc_en.bin` file.
- In a Linux environment, download the `ffj_me_linux_en.bin` file.

2. Create an *installer.sp* file in the *s1studio-download-directory*.

The IDE installer reads the command-line options you include in the *installer.sp* file.

On a Microsoft Windows system, create a file called *ffj_me_win32_en.sp* and place the file in the *s1studio-download-directory*. In the Solaris and Linux environments, name the file *ffj_me_solsparc_en.sp* and *ffj_me_linux_en.sp*, respectively, and place it in the *s1studio-download-directory*.

If you chose to type the installation options directly on the command line, you do not need the *installer.sp* file.

3. Determine the command-line options and corresponding values you want to use, and include them in the *installer.sp* file.

TABLE 3-1 lists the different command-line options and their default values, if any. You can use either the long or short name for each option.

TABLE 3-1 Sun ONE Studio 4 update 1 Command-line Installation Options

Installation Options	Description
<i>for</i> home= <i>s1studio-install-dir</i> <i>fh=ffj-install-dir</i>	Specifies the directory into which you want the IDE installed. This is a mandatory command-line parameter for the <i>-silent</i> mode.
<i>jdk</i> home= <i>jdkhome-dir</i> <i>jh=jdkhome-dir</i>	Sets the location of the valid Java 2 SDK version to use with the IDE. The installer will configure the IDE to use this Java 2 SDK software. This is a mandatory command-line parameter for the <i>-silent</i> mode.
<i>-silent</i>	Specify this option on the command line and not in the <i>installer.sp</i> file. If not specified, the Installshield wizard will appear. If specified, any error messages will be displayed on the command window from which the installer was invoked.

4. If you chose to use the *installer.sp* file, add the command-line options in that file.

For example, on a Microsoft Windows system, the *ffj_me_win32_en.sp* might have the following contents:

```
fh=C:\ffj
jh=C:\j2sdk1.4.0_02
```

On a Solaris environment, the *ffj_me_solsparc_en.sp* might have the following contents:

```
fh=/yourserver/ffj
jh=/usr/j2se
```

5. Execute the installer from the command line.

For example, on a Microsoft Windows system, type the following in a command prompt window:

```
C:\>cd s1studio-download-directory  
C:\>s1studio-download-directory> ffj_me_win32_en.exe -silent
```

For example, in a Solaris environment, type the following in a terminal window:

```
$ cd s1studio-download-directory  
$ ffj_me_solsparc_en.bin -silent
```

The installer displays the following on the command prompt or terminal window:

```
InstallShield Wizard  
  
Initializing InstallShield Wizard...  
  
Searching for Java(tm) Virtual Machine...  
.....  
Running InstallShield Wizard...
```

If there are any errors encountered, messages are displayed on the command prompt window.

Note – If you encounter errors at any point during the Mobile Edition IDE installation, refer to Chapter 6 for troubleshooting hints.

6. Continue to Chapter 4 for information on setting up the Mobile Edition IDE.

Finding Installation Subdirectories

After you have installed the Mobile Edition IDE, the subdirectories listed in TABLE 3-2 can be found under *ffj-install-dir*, your Sun ONE Studio 4 update 1 installation directory.

TABLE 3-2 Sun ONE Studio 4 update 1 Installation Subdirectories

Subdirectory Name	Description
<code>/_uninst</code>	Contains the files used to uninstall the IDE.
<code>/bin</code>	Includes the Mobile Edition IDE startup scripts (as well as the <code>ide.cfg</code> file in Microsoft Windows installations).
<code>/docs</code>	Contains miscellaneous documentation.
<code>/emulator</code>	Contains the J2ME Wireless Toolkit emulator.
<code>/lib</code>	Contains the JAR files that make up the IDE's core implementation and the open APIs.
<code>/modules</code>	Stores Sun ONE Studio modules as JAR files.
<code>/sources</code>	Contains sources for libraries that might be redistributed with user applications.
<code>/system</code>	Includes files and directories used by the IDE for special purposes. Go to your individual <code>s1studio-user-dir/system</code> directory to get the <code>ide.log</code> , which provides information useful when requesting technical support, and to view <code>project.basic</code> and <code>project.last</code> files, which contain information on Sun ONE Studio projects. In a Microsoft Windows system, this <code>s1studio-user-dir/system</code> directory contains the project-specific files under <code>project.basic_hidden</code> and <code>project.last</code> files.
<code>update_tracking.xml</code>	Contains information used by the AutoUpdate Center.

Configuring the Palm OS Emulator

If you want to run the Palm OS Emulator that is included with the J2ME Wireless Toolkit, you should install the emulator before installing the Mobile Edition IDE. You can download the emulator from

<http://www.palmos.com/dev/tech/tools/emulator/>.

You must first configure the emulator as follows:

1. Redirect NetLib calls to the host's TCP/IP.

For certain functions like debugging and Internet connectivity to work, you must set NetLib API calls to be redirected from the Palm OS Emulator to use your computer's TCP/IP.

a. Run the Palm OS Emulator and right-click the emulator.

A menu appears.

b. Select Settings → Properties...

The Properties dialog appears.

c. Check the Redirect NetLib calls to host TCP/IP box, and click OK.

The Properties dialog disappears.

d. Right-click the emulator and select Save.

Your changes are saved.

2. Disable debugging.

The Palm OS Emulator allows various items to be debugged while the application executes. However, for the Palm OS Emulator to work with the Mobile Edition IDE, debugging must be disabled altogether.

a. Run the Palm OS Emulator, and right-click the emulator.

A menu appears.

b. Select Settings → Debugging...

The Debug Options dialog appears.

c. Uncheck all the boxes and click OK.

The Debug Options dialog disappears.

d. Right-click the emulator and select Save.

Your changes are saved.

3. Set the Palm OS Emulator location in the Mobile Edition IDE.

The first time you run an application using the Palm OS Emulator through the Mobile Edition IDE, a dialog appears, asking you for the Palm OS Emulator location. After you set the location, the dialog will not appear again when you run MIDP applications using the emulator.

Uninstalling the Mobile Edition IDE

An uninstaller wizard is available to assist you in the uninstallation of the Mobile Edition IDE. Follow these steps to uninstall your copy of the Sun ONE Studio 4 update 1 IDE:

1. Start the uninstaller from the *s1studio-install-dir/_uninst* directory.

- In a supported Solaris operating environment or Linux environment, ensure that your `DISPLAY` environment variable is defined correctly, and then type:

```
$ java -jar uninstall.jar
```

- On a Microsoft Windows system, execute the `uninstaller.exe` file located in the *s1studio-install-dir/_uninst* directory or use the Add/Remove Program utility in the Control Panel.

The uninstaller's Welcome screen appears.

2. Click Next from the Welcome screen.

A list of Sun ONE Studio 4 update 1 components is displayed.

3. Select the components you want to uninstall and click Next.

4. Click Next to confirm the components to be uninstalled.

The uninstaller wizard proceeds with the uninstallation of the IDE.

5. Click Finish to close the uninstaller wizard.

Using Your Newly Installed Mobile Edition IDE

After you have successfully installed the Mobile Edition IDE, use the information in this chapter to launch, set up and register your IDE. Details about the available command-line switch options are also included.

Setting up Your Mobile Edition IDE

When you first start up the Mobile Edition IDE, you are prompted to:

- Register your software
- Specify the user directory to use with the IDE
- Indicate whether you would like automatic update checking

Use the following steps to guide you through setup of your initial IDE environment:

1. Start the Mobile Edition IDE.

- For a Microsoft Windows system, double-click the Sun ONE Studio 4u1 ME icon created on your desktop or click the Start menu and choose Sun ONE Studio 4u1 ME → Sun ONE Studio. Alternatively, from a command prompt window, type:

```
C:\>cd s1studio-install-dir\bin
C:\s1studioinstall-dir\bin>runidew.exe
```

If this is the first time you are installing this version of the Mobile Edition IDE on a Microsoft Windows system, you are prompted for the user directory.

- For the supported Solaris operating environments or a Linux environment, type:

```
$ cd s1studio-install-dir/bin
$ runide.sh
```

2. (Microsoft Windows only) Type the name of the directory where you want the IDE to store your settings and project information, and click OK.

Ensure that the directory you create is in a place that is always accessible to your system. If you have different versions of the IDE, use a different user directory for each IDE version. This directory should be different from the directory where the IDE is installed.

The recommended name for the user directory in a Microsoft Windows system is *drive:fully-qualified-path\ffjuser40me*. This name is entered the `UserDir` value of the `Software\SunMicrosystems, Inc.\Forte for Java` key in the `HKEY_CURRENT_USER` registry. This value is not deleted when the IDE is uninstalled. The name will be reused by future installations of this version of the IDE if the `UserDir` value is not explicitly deleted from the Microsoft Windows Registry. Refer to the troubleshooting information in TABLE 6-3, if you want to use a different location for your user directory.

The Settings Import wizard appears.

3. In the Settings Import wizard, specify whether you want to import your settings from a previous version of the IDE.

Note – Because the Community and Enterprise Edition IDEs include several modules not supported by Mobile Edition IDE, Sun does not recommend using previous settings from the Community and Enterprise Edition IDEs with the Mobile Edition IDE.

- If you do not want to import your previous user settings, select No, and click Finish to exit the wizard.

On a Microsoft Windows system, the user directory is created in the previous step or set to the same user directory you specified in a previous installation of this version of the IDE if you did not remove the previous `UserDir` value in the registry.

For supported Solaris or Red Hat Linux environments, the default user directory is created and named `$HOME/ffjuser40me`.

- If you want to import your previous user settings, select Yes, and click Next. You are prompted for the location of the user directory for the previously installed IDE.

- a. **Specify the path or click Browse to locate the directory. Click Next.**

The IDE imports the settings.

- b. **Click Finish to exit the wizard.**

The IDE continues with the startup and the Setup wizard appears.

4. **If you are behind a firewall, specify the proxy server information.**

5. **Select the window mode, and click Next to continue with the setup.**

6. **Click Finish to continue with IDE startup, or click Next for additional setup options.**

- If you click Finish, the IDE continues with the startup and several windows appear. The registration wizard appears. Continue with Step 10.
- Otherwise, if you click Next, the Module Installation pane appears.

7. **In the Module Installation pane, specify which module you want to enable or disable.**

By default, all the modules installed with the IDE are enabled. Disable a module by doing the following:

- a. **Click on the Enabled property value for the module.**

- b. **Click a second time and select False to disable the module.**

8. **Click Next to continue with the setup, or click Finish to continue with the IDE startup.**

- If you click Finish, the IDE continues with the startup and several windows appear. The Registration wizard appears. Continue with Step 10.
- If you click Next, the Update Center pane appears.

9. **From the Update Center pane, specify how often you want the IDE to automatically check the Update Center. Select the Sun ONE Studio Update Center as the update center from which you want to obtain the updates for modules of your choice.**

Click Finish to continue with the IDE startup. Several windows appear and the registration wizard appears.

10. **From the Registration wizard, select your preferred method of registration.**

- Select “Register using the web” to register your Mobile Edition IDE software using the web, or to edit your existing registration information if you have changed Sun ONE Studio editions.

The registration page appears on your web browser and you can proceed to register the product, create a new Sun ONE Studio Developer Resources account, or update your account.

Registering your Mobile Edition IDE through the web enables you to:

- Use the Update Center to download and install new modules and updates specific to your environment
- Subscribe to the Early Access Program (<http://forte.sun.com/eap>) and receive new, nonpublic builds of the IDE, as well as preview releases of Sun ONE Studio modules, patches, and bug fixes
- Receive product announcements, if desired
- Use the same user name and password to access the Update Center, the Early Access Program, and the Sun Download Center (from which you might have downloaded the Mobile Edition IDE)

If you already registered with the Sun ONE Studio Developer Resources, Sun Download Center, or mysun.sun.com, you can use the same user name and password, but you are prompted for additional information.

Note – To maintain your Sun ONE Studio Developer Resources account using the web, choose Help → Registration Wizard from the main window of the IDE. Or, go to <http://forte.sun.com/services/registration/accountmaintenance.html>

- Register by FAX or mail.

This method of registration registers only your Mobile Edition IDE.

If you decide to register with Sun ONE Studio Developer Resources at a later time, choose Help → Registration Wizard from the main window of the IDE.

11. From the Automatic Update Check dialog box, specify whether you want to check for new IDE updates.

- If you reply Yes, the Update Center wizard appears. Follow the instructions on the wizard to complete the setup for automatic update checking.
- If you reply No, you can start the Update Center wizard at a later time by choosing Tools → Update Center from the main window of the IDE.

Using the Startup Command-Line Options

The IDE startup scripts for all supported platforms can be run with additional options. These command-line options are specified with flags.

On a supported Microsoft Windows system, for example, you might type:

```
C:\>runidew.exe -help
```

In a supported Linux or Solaris environments, for example, you might type:

```
# runide.sh -help
```

Alternatively, you can put the options in the *s1studio-install-dir/bin/ide.cfg* file. The IDE reads this file before parsing any command-line options. You can break options into multiple lines in *ide.cfg*.

TABLE 4-1 lists the startup command-line options for all supported platforms.

TABLE 4-1 Command-Line Switch Options

Switch Options	Description
-h -help	Prints usage.
-jdkhome <i>jdk-home-dir</i>	Selects an SDK other than the default SDK. On Microsoft Windows, by default, the IDE checks the registry and selects the latest SDK available.
-hotspot -server -client -classic -native -green	Explicitly specifies the Java virtual machine (JVM™) variant to be used. The terms “Java virtual machine” and “JVM” mean a virtual machine for the Java platform.
-cp:p <i>additional-classpath</i>	Prepends the specified class path onto the IDE’s class path.
-cp:a <i>additional-classpath</i>	Appends the specified class path to the IDE’s class path.
-ui <i>UI_class-name</i>	Selects a given class as the IDE’s look and feel.
-fontsize <i>size</i>	Sets the font size, expressed in points, in the IDE’s user interface.
-single	Launches the IDE from <i>s1studio-install-dir</i> instead of from your <i>s1studio-user-dir</i> directory. Runs the Mobile Edition IDE in single-user mode. The default mode is multiuser.

TABLE 4-1 Command-Line Switch Options (*Continued*)

Switch Options	Description
<code>-userdir <i>s1studio-user-dir</i></code>	Explicitly specifies the <i>s1studio-user-dir</i> directory (the location where your user settings are stored). If this option is not used in Microsoft Windows NT, the user is prompted at the initial startup of the IDE for the <i>s1studio-user-dir</i> directory to use. On Microsoft Windows systems, this value is stored in the registry for later use. If this option is not used in Solaris or Linux operating environments, the location is <i>user-home-dir/ffjuser40me</i> .
<code>-Jjvm-flags</code>	Passes specified flags directly to the JVM.
<code>-J-Xverify:none</code>	Tells the JVM not to verify the correctness of the bytecode for faster startup. Bytecode verification is a slow process. Whenever a class is loaded, the JVM scans all bytecode and detects an invalid byte sequence even if a method is never called. Also, the JVM loads certain classes referred to in method signatures and in the method body, even though they are not called during startup. However, setting this flag removes some of the protection that the Java language gives you. (Refer to the JVM documentation for more information.)
<code>-J-Xms24m</code>	Sets up the initial heap size of the JVM to 24 MB. This switch prevents the JVM from extending the heap size during startup, which enables faster startup time for the IDE.

In the Solaris and Linux environments, users can modify startup scripts to suit their needs.

Validating Your Mobile Edition Installation

You can test your installation quickly by executing one of the sample applications included with the Mobile Edition IDE.

1. **Open the Explorer and expand the sample directory** (*s1studio-user-dir/sampleDir*).
2. **Right-click on the Games MIDlet suite and choose Execute.**

If the Mobile Editions is installed correctly, the default emulator appears with a menu of games on the screen.

Where to Go From Here

This chapter contains information about available documentation resources and how to obtain IDE updates from the Sun ONE Studio Update Center.

Updating Modules With the Update Center

Once you have Sun ONE Studio 4, Mobile Edition installed in your system, use the Update Center to add new IDE modules or update the existing IDE modules already installed in your system. Use the following steps to update your IDE.

1. Start the IDE.

See Chapter 4 for instructions on how to start the IDE.

2. Select the Update Center from the IDE's Welcome screen or choose Tools → Update Center from the main window of the IDE.

The Update Center wizard appears.

3. Select Sun ONE Studio Update Center as the Update Center and deselect NetBeans Update Center.

4. Click the Proxy Configuration to set your proxy configuration, if needed.

The Proxy Configuration dialog box appears. Modify the values as needed and click OK to return to the Update Center wizard.

5. **Click Next and type your Sun ONE Studio Update Center login name and password.**

See Step 10 in “Setting up Your Mobile Edition IDE” on page 49, for information on registering and creating a login name and password.

The Update Center displays the modules that are available to you.

6. **Select individual modules or select all by clicking the >> button. Use the < button to remove those versions that are not appropriate to your platform.**

7. **Click Next and follow the Update Center installation procedure.**

The IDE installs the selected modules, then restarts itself.

For more information about how the Update Center works and Sun’s privacy policy regarding your personal information, see the Developer Resources Site FAQs at <http://forte.sun.com/ffj/resources/sitefaq.html>.

Other Documentation Resources

You can access the following resources to learn more about the different features of the IDE and how to use them:

- The online help is available by accessing the Help menu from the main window of the IDE. You can view the available help sets by choosing Help Sets from the Help menu.
- A set of programming books, tutorials, and code examples are available at <http://forte.sun.com/ffj/documentation/index.html>.
- The Sun ONE Studio Developer Resources site at <http://forte.sun.com/ffj/index.html> also contains a wealth of information and support resources, including Sun ONE Studio news, technical articles, a support knowledge base, forums, and more.

You can also access this site from the IDE by choosing Help → Web Resources from the main window of the IDE.

Troubleshooting

This chapter provides some troubleshooting hints to help you during the installation, start up, or configuration of the Mobile Edition IDE.

Using the `solaris_patch_installer`

TABLE 6-1 describes some errors you might encounter during installation of Solaris patches using the `solaris_patch_installer` script.

TABLE 6-1 `solaris_patch_installer` Errors

Problem	Solution
The <code>solaris_patch_installer</code> aborted while attempting to apply one of the required Solaris patches on your system.	<ol style="list-style-type: none">1. Write down the patchID of the last patch that the <code>solaris_patch_installer</code> tried to install.2. Obtain a newer revision of that patch from http://sunsolve.sun.com, if one is available.3. Install the new revision on your system using the <code>patchadd</code> utility. If you are unfamiliar with installing Solaris packages, contact your system administrator for assistance.4. Run the <code>solaris_patch_installer</code> again to ensure you have all the required Solaris 8 patches on your system.

TABLE 6-1 solaris_patch_installer Errors (*Continued*)

Problem	Solution
<p>Receipt of an error message similar to the following, after running the <code>solaris_patch_installer</code> on a newly installed Solaris 8 (update 7) environment:</p> <pre># ./solaris_patch_installer Solaris Patch Installer for J2SE, v.1.4.0 Installing 109147-14... successfully installed Installing 108434-06... ... Installing 108528-13... attempting to patch a package that is not installed Installing 108652-51... successfully installed Installing 108921-13... already applied Installing 108940-40... successfully installed Installing 108773-12... pkgadd failed Cannot continue patch installation. For more details, please look at /var/tmp/solaris_patch_installer.log</pre>	<p>Run the <code>solaris_patch_installer</code> script a second time. If you continue to have problems, contact your Solaris system administrator.</p>

Installing the Mobile Edition IDE

TABLE 6-2 describes some errors you might encounter during the Mobile Edition IDE installation.

TABLE 6-2 Mobile Edition IDE Installation Errors

Problem	Solution
Receipt of the following error message while installing the Mobile Edition IDE: Error writing file = There may not be enough temporary disk space. Try using <code>-is:tempdir</code> to use a temporary directory on a partition with more disk space	Start the installer with the <code>-is:tempdir</code> command-line option, in order to specify a directory on a disk with more free space. For example, in a Solaris operating environment, you might type the following at the command prompt: <pre>\$ ffj_me_solsparc_en.bin -is:tempdir temporary-directory</pre>
The Sun ONE Studio 4 update 1 installer fails and displays a message that there is not enough available disk space to use for installation. But, the filesystem you specified to use for installing the IDE has plenty of available disk space.	The filesystem you have specified is symbolically linked to another filesystem whose large amount of disk space is not recognized. For example, in a Solaris environment, <code>/export/home</code> has 2 GB of space and <code>/</code> has 100 MB. The <code>/opt</code> directory is symbolically linked to <code>/export/home</code> . If you specified <code>/opt/slstudio</code> as the IDE installation directory, the Sun ONE Studio 4 update 1 installer does not recognize the symbolic link to <code>/export/home</code> , which has 2 GB of available disk space. The installer only recognizes the <code>/</code> directory, which is the target directory for <code>/opt</code> and only has 100 MB. To correct the problem, directly specify the filesystem with the larger available disk space. For the preceding example, specify <code>/export/home</code> as the installation directory.
Receipt of the following error message while installing the Mobile Edition IDE: Error: Could not find JVM	Start the installer with the <code>-is:javahome</code> command-line option, in order to specify a directory on a disk with more free space. For example, in a Solaris operating environment, type the following at the command prompt: <pre>\$ ffj_me_solsparc_en.bin -is:javahome javahome</pre>

TABLE 6-2 Mobile Edition IDE Installation Errors (*Continued*)

Problem	Solution
(Solaris or Linux environments only) The Sun ONE Studio 4 update 1 installer looks like it is hung, after it was started. No messages are displayed.	<p>You may not have set the <code>DISPLAY</code> environment variable correctly. If you are installing on your local system, the <code>DISPLAY</code> environment variable should be set to <code>:0.0</code>. If you are using a superuser (root) account or doing a remote installation, set your <code>DISPLAY</code> environment variable to your local system.</p> <p>For example, to set the <code>DISPLAY</code> variable from a root account that is using a C-shell, type the following in the command window you used to log into the root account:</p> <pre>setenv DISPLAY your-local-host:0.0.</pre> <p>Run the installer again from the same command window.</p>
The Sun ONE Studio 4 update 1 IDE installer exits without installing the product. No messages are displayed.	<p>These are the possible causes and solutions:</p> <ul style="list-style-type: none"> • The file you have downloaded from the Sun ONE Studio 4 update 1 product download page is not complete. Download the file again and check that the size of the downloaded file is the same as the file size specified on the product download page. Run the IDE installer again. • You have specified an invalid command-line parameter in the <code>installer.sp</code> file. Check the file and correct any incorrect command-line parameter setting. Run the IDE installer again. • Run the installer launcher (<code><installer>.exe</code> file or <code><installer>.bin</code> file) with the option <code><installer>.exe/bin -is:log log.txt</code>. Check <code>log.txt</code> for possible errors
The <code>-is:tempdir</code> commandline parameter is not working.	<p>Make sure that you are using the correct syntax for the command-line parameter for the installer. For example, on a Solaris environment, the syntax is as follows:</p> <pre>ffj_me_solsparc_en.bin -is:tempdir <i>temporary-directory</i></pre>
(Solaris environment only) Not able to eject the product CD when running the installer manually. (This problem occurs when you are installing the IDE from the merged product CD. Hence, two CD-ROMs are involved in the installation.)	When running the installer manually, do not run it from within its own directory.

Starting Up the Mobile Edition IDE

TABLE 6-3 describes some errors you might receive during startup and configuration of the newly installed Mobile Edition IDE software.

TABLE 6-3 Mobile Edition IDE Startup and Configuration Errors

Problem	Solution
Receipt of an error message similar to the following during the IDE startup in a supported Solaris environment: Error: Java 2 SDK search failed to find a suitable J2SDK!	Reinstall the SDK while logged in as superuser and ensure that the installation directory is on the root level.
Receipt of an error message similar to the following during the IDE startup in a supported Solaris environment: Error: No J2SE was found at /usr/j2se/bin/java ERROR: The following required 5.8 patches have not been installed on system "myserver": 106950-16 106327-11 106541-17 NOTE: You can download and install the J2SE[tm] and related Solaris[tm] patches from http://access1.sun.com/forte/ . Warning:Current runtime environment does not satisfy minimum requirements.	Install the J2SE, v. 1.4.0_02 platform on your system. For a Solaris 8 operating environment, include any necessary patches. Refer to Chapter 2 for more information on installing this software on your system.
Receipt of the following error message after starting the IDE: Error: Unable to load java.dll	Make sure there is no space in the name of the directory in which you have installed the J2SE, v. 1.3.1 or J2SE, v. 1.4.0_02 platform.

TABLE 6-3 Mobile Edition IDE Startup and Configuration Errors (*Continued*)

Problem	Solution
<p>Mobile Edition IDE is not pointing to the J2SE, v. 1.4.0 platform you had specified during the IDE installation and you receive an error message similar to the following:</p> <pre>ERROR: The J2SE[tm] 1.2.1 found at /usr/java1.2/bin/java cannot be used by the IDE. J2SE[tm] 1.4 is recommended. NOTE: You can download and install the J2SE[tm] and related Solaris[tm] patches from http://access1.sun.com/forte/. Warning:Current runtime environment does not satisfy minimum requirements.</pre>	<p>Check the Java environment variables already set prior to starting the IDE and unset them.</p> <p>The values of the <code>\$JAVA_PATH</code> and <code>\$JDK_HOME</code> environment variables override the value of the J2SE SDK path you specified during the IDE installation. You need to unset these environment variables or use the <code>-jdkhome</code> command-line option when starting the IDE.</p>
<p>The user directory is created in the wrong location in a Microsoft Windows system.</p>	<p>If you have previously installed any edition of the Sun ONE Studio 4 IDE in a Windows environment, the location of the user directory is recorded in the Microsoft Windows Registry under <code>HKEY_CURRENT_USER/Software/Sun Microsystems, Inc./Forte for Java/ME/4.0</code>. This value is not deleted when you uninstall the IDE. Therefore, when you install another version of the Sun ONE Studio 4 IDE, the user directory specified in a previous installation is reused.</p> <p>If you want to use a different location for the user directory, do the following:</p> <ol style="list-style-type: none">1. Uninstall the Mobile Edition IDE.2. In a command window, type regedit to start the Microsoft Windows Registry editor.3. From the Registry editor, expand the <code>HKEY_CURRENT_USER</code> registry and the keys for <code>Software/Sun Microsystems, Inc./Forte for Java/ME/4.0</code>4. Right-click the <code>UserDir</code> value and choose Delete from the contextual menu.5. Install the Mobile Edition IDE again.6. After installation, start the Mobile Edition IDE and when you are prompted, specify a new location for the user directory.

TABLE 6-3 Mobile Edition IDE Startup and Configuration Errors (*Continued*)

Problem	Solution
(Solaris environment only) Receipt of the following error message: Cannot find product /product.xml on your computer.	<p>Stop and start volume management (vold) on the system, and run the installer again.</p> <p>To stop volume management:</p> <ol style="list-style-type: none">1. Ensure that media are not being used. <p>If you are not sure whether you have found all users of the media, use the <code>fuser</code> command.</p> <ol style="list-style-type: none">2. Become superuser.3. Type the <code>volmgt stop</code> command: <code># /etc/init.d/volmgt stop</code> <code>#</code> <p>To restart volume management:</p> <ol style="list-style-type: none">1. Become superuser.2. Type the <code>volmgt start</code> command: <code># /etc/init.d/volmgt start</code> volume management starting

Configuring an External Compiler

TABLE 6-4 describes a problem you might encounter when compiling MIDlets or MIDlet suites.

TABLE 6-4 Mobile Edition IDE Compilation Errors

Problem	Solution
Receipt of compilation errors after switching to an external compiler or updating the internal compiler.	<p>The Java Wireless Toolkit v.1.0.3 preverifier does not support JDK 1.4.0 classes. If you are using theJ2SE, v. 1.4.0_02 platform, the default for the Preverify compiler is an internal compiler. If you want to use an external compiler or download an updated internal compiler, you need to configure the Preverify Compiler properties within the Mobile Edition to use the external compiler.</p> <p>To configure the Preverify compiler:</p> <ol style="list-style-type: none">1. Choose Tools → Options → Building → Compiler Types → Preverify Compiler. The properties for the Preverify Compiler are listed on the right.2. Click in the Java Compiler property field and select External Compilation from the menu.3. Click on the ellipsis(...) button in the External Compiler property field and add the switch <code>-target 1.1</code> to the Process field. The syntax for the External Compiler property is: <code>{jdk.home}{/}bin{/}javac -target 1.1 {debug info} {deprecation} {optimize} {outputdir} {encoding} {source opt} {bootclasspath.opt} {bootclasspath} -classpath {filesystems}{;} {classpath} {files}.</code>4. Click OK to finish.

Solaris Patch Identifications and Descriptions

TABLE A-1 lists the Solaris patch identification numbers and patch descriptions included with the `solaris_patch_installer` for the Solaris™ 8 *SPARC Platform Edition*.

TABLE A-1 Patch Identifications and Descriptions for Solaris 8 *SPARC Platform Edition*

Patch Identification Number	Patch Description
109147-14	Solaris 8 interprocedural optimizer
108434-06	Solaris 8 libC sparc
108435-06	V9 libC
111293-04	<code>/usr/lib/libdevinfo.so.1</code>
112334-01	<code>/usr/include/sys/archsystem.h</code>
111310-01	<code>/usr/lib/libdhcpageant.so.1</code>
108528-13	SIGEMT
108652-51	Xserver
108921-13	CDE 1.4 dtwm
108940-40	Motif 2.1
108773-12	X input methods
109607-01	<code>/usr/include/iso/stdlib_iso.h</code>
112003-03	Fontset
108989-02	Accounting
108827-17	Threads

