



Forte™ for Java™, Mobile Edition Getting Started Guide

Forte for Java, Release 4.0

PRELIMINARY

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Preface

This document provides installation instructions for the Forte™ for Java™, Mobile Edition integrated development environment (IDE). Topics covered include:

- Overview of the required steps for installing the J2SE platform and the Mobile Edition IDE
- System requirements
- Contents of top-level directories of the IDE
- Registering with Forte for Java Developer Resources
- Updating modules with the Update Center
- Uninstalling the IDE
- Using the startup command-line switches
- Accessing supporting documentation
- Troubleshooting tips

How This Book Is Organized

Chapter 1 provides the information necessary to prepare for the installation of the Forte for Java, release 4.0, Mobile Edition IDE, including an overview of the steps required for installation, supported platforms, and system requirements.

Chapter 2 provides step-by-step instructions for installing the J2SE, v. 1.4.0 platform.

Chapter 3 contains instructions on how to install Forte for Java, release 4.0, Mobile Edition on each of the supported platforms.

Chapter 4 provides information for launching, setting up, and registering the Mobile Edition IDE. Details about the available command-line switch options are also included.

Chapter 5 contains information about available documentation resources and how to obtain IDE updates from the Forte for Java Update Center.

Chapter 6 provides some troubleshooting hints to help you during your installation and launching of the Forte for Java IDE.

Appendix A provides the Solaris™ patch identification numbers and descriptions of the patches included with the Java™ 2 Platform, Standard Edition 1.4.0 (JSE™, v.1.4.0 platform) installation.

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, command-line variables	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. To delete a file, type rm <i>filename</i> .

Related Documentation

See <http://forte.sun.com/ffj/documentation/index.html> for more information on documentation related to the Forte for Java, Early Access release 4.0, Community and Enterprise Editions.

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Preparing for Installation

This chapter contains information needed to prepare for the installation of the Forte for Java, release 4.0, Mobile Edition IDE (hereinafter referred to as Mobile Edition IDE).

Overview of the Installation

The following is the general process to follow to install the Mobile Edition IDE on your system. The process includes the validation, customization, and registration of your Mobile Edition IDE installation.

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

Note – The recommended option is for you to use the J2SE, v. 1.4.0 platform with the Mobile Edition IDE. Read “Installing the J2SE, v. 1.4.0 Platform” on page 9 for detailed installation instructions. Verify that the system you will use for installation meets the minimum system requirements. See “System Requirements” on page 7 for more information.

2. Determine which software you will want the Mobile Edition IDE installer to install. The Forte for Java, release 4.0, Mobile Edition installer includes the following software:
 - Forte for Java, release 4.0, Mobile Edition Core Platform and Modules
 - J2ME™ Wireless Toolkit
3. Determine if you want to keep any previous versions of the Forte for Java IDE. If you do, identify a different directory in which you will install the Forte for Java, release 4.0, Mobile Edition.

4. Determine where you want your Mobile Edition IDE user settings to be stored or where your current user settings are located.
 - If you decide to use your current user settings, you need to specify your current user directory when prompted during the initial IDE setup. Read “Using Your Newly Installed Mobile Edition IDE” on page 27 for more information.

Note – Sun recommends that you do not use your current user settings for the Community Edition or Enterprise Edition IDEs with the Mobile Edition IDE.

5. Install Forte for Java, release 4.0, Mobile Edition. Read “Installing the Mobile Edition IDE” on page 17 for detailed installation instructions on each of the supported platforms.
6. Set up your initial IDE environment and register the product. Read “Using Your Newly Installed Mobile Edition IDE” on page 27 for instructions on setting up your user directory and registering the product.
7. Validate your installation of the Mobile Edition IDE by executing one of the example applications. Read “Validating your Mobile Edition Installation” on page 29 for instructions on testing your installation with one of the sample applications included with the Mobile Edition IDE.

After you have validated that your Mobile Edition IDE installation is working properly, you can customize your Mobile Edition IDE installation using the instructions in “Where to Go From Here” on page 33.

Supported Platforms

This release of the Forte for Java, release 4.0, Mobile Edition has been tested with Solaris 8 operating environment (SPARC platform) and Microsoft Windows 2000 system. It is recommended that you use these platforms for your evaluation of this release.

This release has been tested on a limited basis on the Red Hat Linux 7.1 environment and Microsoft Windows NT4, SP6 system.

System Requirements

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

TABLE 1-1 Forte for Java, release 4.0, Mobile Edition System Requirements

	Free hard disk space required for installation)	Minimum configuration
Solaris™ 8 Operating Environments (SPARC Platform)	100 MB	Ultra-10, 333Mhz, 128MB RAM
Windows 2000, Windows NT 4 SP6¹	100 MB	Pentium III, 350Mhz, 128MB RAM
Red Hat Linux 7.1	100 MB	Pentium III, 350Mhz, 128MB RAM

1. This release has been tested on a limited basis on the Red Hat Linux 7.1 environment and Microsoft Window NT4, SP6 system.

These are general guidelines. Your requirements might vary depending on what additional software you have installed for use with the Mobile Edition IDE.

Installing the J2SE, v. 1.4.0 Platform

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

Verifying Your J2SE Platform Version

To use the Forte for Java IDE, you must have one of the following:

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

The recommendation is for you to use the J2SE, v. 1.4.0 platform with the Forte for Java IDE. If you run the Forte for Java IDE without J2SE, v.1.3.1 or J2SE, v. 1.4.0 platform installed or available, you get error and warning messages.

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

Note – To maximize runtime performance, it is highly recommended that the J2SE be installed on and accessed from your local system.

1. Identify which Java™ version is available to your system, by typing 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-b29)
Java HotSpot(TM) Client VM (build 1.4.0-b29, mixed mode)
```

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

2. If you *do not* have J2SE, v. 1.3.1 or J2SE, v. 1.4.0 platforms available to your system do the following:
 - a. Obtain the J2SE, v.1.4.0 installer from <http://forte.sun.com/eap> or from the Forte for Java CD.
 - b. Install the J2SE, v. 1.4.0 platform on your system.

Read “Installing the J2SE, v. 1.4.0 Platform” on page 9 for additional instructions for your specific system.
3. (Solaris only) If you *do* have the supported J2SE, v. 1.4.0 platform on your system, you might require the Solaris patches that are applicable to your version of the Solaris operating environment.

If you do not have the required Solaris patches when you invoke the Forte for Java IDE, you will 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.

Note – The J2SE, v. 1.4.0 installer for the Solaris operating environment also includes related Solaris software patches. For a complete list of the Solaris patches that are installed with the J2SE, v. 1.4.0 platform, see “Solaris Patch Identifications and Descriptions” on page 39.

Installation on Microsoft Windows Systems

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

1. **If you have not already done so, download the `j2sdk-1_4_0-rc-win.exe` file from <http://forte.sun.com/eap> or from the Forte for Java CD.**
2. **Double-click the `j2sdk-1_4_0-rc-win.exe` file to invoke the installation wizard.**
3. **Follow the instructions on the installation wizard panes to complete the J2SE, v. 1.4.0 platform installation on your Microsoft Windows system.**

Installation in the Red Hat Linux Environment

To install the J2SE, v. 1.4.0 platform in your Red Hat Linux 7.1 environment, follow these steps:

1. **If you have not already done so, download the `j2sdk-1_4_0-rc-linux-i386-rpm.bin` file from <http://forte.sun.com/eap> or from the Forte for Java CD.**
2. **Double-click the `j2sdk-1_4_0-rc-linux-i386-rpm.bin` file to invoke the installation wizard.**
3. **Follow the instructions on the installation wizard panes to complete the J2SE, v. 1.4.0 platform installation in your Red Hat Linux environment.**

Installation in the Solaris Operating Environments

There are two ways to install the J2SE, v. 1.4.0 platform and Solaris patches:

- Web Start graphical user interface (see “Using the Web Start Graphical User Interface” on page 12 for instructions).
- `installer` command-line installation executable if you do not have graphical user interface capabilities (see “Using the Web Start Command-Line Installation” on page 14 for instructions)

Using the Web Start Graphical User Interface

These instructions describe how to use the Web Start software to install the J2SE, v. 1.4.0 platform and Solaris patches.

1. **If you have not already done so, download the `j2se1.4_installer.tar.gz` file from <http://forte.sun.com/eap> or from the Forte for Java CD.**
2. **Determine the directory into which you want to extract the downloaded J2SE installer file.**
3. **From the download directory, uncompress and extract the contents of the downloaded J2SE, v.1.4.0 installer file into the *extract-directory* by typing:**

```
% cd download-directory
% gzcat j2se1.4_installer.tar.gz | (cd extract-directory; tar xvf -)
```

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

4. **To recover disk space, remove the downloaded tar file by typing:**

```
% rm -f j2se1.4_installer.tar.gz
```

5. **Go to the directory that was created when you untarred the downloaded file. For example, if the file you untarred is `j2se1.4_installer.tar`, then type the following:**

```
% cd <extract-directory>
% cd j2se1.4_installer
```


6. Become a superuser by typing:

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

7. Start the Web Start Installer

```
# ./installer
```

Note – Do not run the installer in the background.

8. In the Welcome screen, click Next.

9. Click Next to install in /usr.

Note – The recommendation is for you to install the J2SE, v. 1.4.0 platform and Solaris patches in the /usr directory.

The installation directory that you choose is your default installation directory for this Web Start session.

10. Select the components you want to install and click Next.

The default selections J2SE SDK v 1.4.0 and Solaris patches for J2SE platform are recommended for installation. To change the default selections, select the components you want to install.

11. Verify the items that you want to install and click Next.

To make changes to your selection, click Back.

12. Click Install Now to proceed with installation.

The Installing pane appears with a progress indicator.

Note – Some of the Solaris patches can take a long time to install. The progress indicator may seem stalled, but the installation is actually still in progress.

13. After installation is complete, click the Details button to get information about the installation.

14. Review the messages in the Installation Summary pane. Click Exit to complete the installation.

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

15. Exit from superuser privileges by typing:

```
# exit
```

Using the Web Start Command-Line Installation

These instructions describe how to use the Web Start software to install the J2SE, v. 1.4.0 platform and Solaris patches.

1. If you have not already done so, download the `j2se1.4_installer.tar.gz` file from <http://forte.sun.com/eap> or from the Forte for Java CD.
2. Determine the directory into which you want to extract the downloaded J2SE installer file.
3. From the download directory, uncompress and extract the contents of the downloaded J2SE, v.1.4.0 installer file into the *extract-directory* by typing:

```
% cd download-directory
% gzcat j2se1.4_installer.tar.gz | (cd extract-directory; tar xvf -)
```

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

4. To recover disk space, remove the downloaded tar file by typing:

```
% rm -f downloaded-file.tar
```

5. Become a superuser (root) by typing:

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

6. Go to the directory that was created when you untarred the downloaded file. For example, if the file you untarred is `j2se1.4_installer.tar`, then type the following:

```
% cd extract-directory
% cd j2se1.4_installer
```

7. Start the command-line installation by typing:

```
# ./installer -nodisplay
```

Note – Do not run the installer in the background.

After the installer opens, the following message appears:

```
Solaris Web Start will assist you in installing software for J2SE
SDK 1.4.0 and Patches.
```

8. Press the Enter key. The Enter key is equivalent to the Return key on some keyboards.

Note – Throughout the command-line installation, you can press the Enter key to select the default selections.

9. Specify a location for installation.

Note – The recommendation is for you to install the J2SE, v. 1.4.0 platform and Solaris patches in the `/usr` directory.

10. Select the components you want to install. The default selections of J2SE SDK v.1.4.0 and Solaris patches for J2SE platform are recommended for installation. To change the default selections, do the following:

- a. Select or deselect a component for installation by entering the number corresponding to the component, and press Enter.
- b. When finished, type 0 and press Enter.

11. A list of components will be shown for verification.

- Type 1 if you want to proceed with installation.

- Type 2 if you want to start over from Step 8.
 - Type 3 if you want to exit the installation.
12. If you typed 1 to proceed with installation, a progress indicator appears.
 - a. When installation is complete, you can view a product's log file by typing the number corresponding to that product.
 - b. When you are finished viewing the log files, type the number corresponding to Done.
 13. After installation is complete, select the number corresponding to Details to get information about the installation.
 14. Exit from superuser privileges by typing:

```
# exit
```

Continue to “Installing the Mobile Edition IDE” on page 17 for Forte for Java software installation instructions.

Uninstalling the J2SE, v. 1.4.0 Software

Use the following information to uninstall the J2SE, v1.4.0 software from your system:

- In a Microsoft Windows system, use the Add/Remove Programs utility in the Control Panel to uninstall the J2SE, v. 1.4.0 software from your system.
- For RedHat Linux 7.1 environment, use the `rpm` command to uninstall the J2SE, v.1.4.0 software from your system.
- For Solaris operating environments, use the `pkgrm` and `patchrm` commands to uninstall the J2SE, v. 1.4.0 software and associated Solaris patches from your system.

Refer to “Solaris Patch Identifications and Descriptions” on page 39 for information on patches that were included with the J2SE, v.1.0 software installation.

Use `man pkgrm` and `man patchrm` for additional information on these commands.

Caution – Removing the J2SE, v. 1.4.0 software and related Solaris patches can cause regressive behavior on your system.

Installing the Mobile Edition IDE

This chapter contains information on upgrading from previous releases of the Mobile Edition IDE and instructions on how to install Forte for Java, release 4.0, Mobile Edition on each of the supported platforms.

If you want to use the Palm OS Emulator with the Mobile Edition IDE, you should install the emulator before installing the IDE. See “Configuring the Palm OS Emulator” on page 24 for more information.

Supporting Previous Forte for Java Software Releases

Although there has not been a previous release of the Mobile Edition IDE, you might be using the J2ME™ Wireless Toolkit with a previous version of Forte for Java, Community Edition or Forte for Java, Enterprise Edition.

To upgrade your previous version of Forte for Java to the Forte for Java, release 4.0, Mobile Edition, you can choose from one of the following:

- uninstall your previous versions of the Forte for Java IDE and J2ME Wireless Toolkit, or
- you can preserve your previous version of the IDE and install release 4.0 in a new installation directory. Because the Mobile Edition IDE installs its own version of the J2ME Wireless Toolkit emulator, any other version of the J2ME Wireless Toolkit will be ignored by the installation.

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.

Uninstalling Your Previous Version of the Mobile Edition IDE

If you are upgrading from a previous version and would like to uninstall the previous version of the IDE, do the following steps to preserve your previous IDE user settings:

1. Run the Forte for Java, release 4.0 installer.

Read “Installing the Mobile Edition IDE on Supported Platforms” on page 19 for more information on installing the IDE on your system.

2. Specify the previous IDE version’s installation directory as the destination directory in which to install the new version of the IDE.

The installer checks the destination directory you have specified and you will be prompted whether you want to save the contents of the directory.

3. Confirm whether you want to remove the contents of the destination directory.

The installer proceeds with the installation of the Forte for Java, release 4.0, Enterprise Edition in the destination directory.

4. After the installation has completed, launch the new IDE and specify the previous version’s installation directory when prompted for the location of the previous version of the IDE.

The Import Settings wizard imports the user settings from the previous version. Because the Mobile Edition IDE does not use some of the modules that are used by the Community and Enterprise Edition IDEs, a dialog opens listing the modules that were not found. See “Setting up Your Mobile Edition IDE” on page 27 for more details about setting your user directory.

Note – Using the settings from the Community Edition IDE or Enterprise Edition IDE will cause some differences in the Mobile Edition interface. For example, the Explorer might have an extra tab view named Visual. This should not, however, affect the performance of the Mobile Edition IDE.

Creating a Shared Installation

If you want to share a Forte for Java installation between multiple users, you must install the Mobile Edition IDE into a shared directory.

- After installation of the IDE in the supported Solaris operating and Red Hat Linux environments, all user settings are stored in the `ffjuser40ee_ea` directory created under each user's home directory. This occurs for both shared and unshared installations.
- After installation of the IDE in a Microsoft Windows system, you must set your own user directory using a dialog box that appears immediately upon initial startup of the IDE from your machine. This occurs for both shared and unshared installations.

The recommendation is for you to name the user directory as *drive:fully_qualified_path\ffjuser40ee_ea*.

Installing the Mobile Edition IDE on Supported Platforms

These instructions describe the installation process for each of the supported platforms.

Installation on Microsoft Windows Systems

You can install the Mobile Edition IDE on Microsoft Windows through an `.exe` file.

Note – You must have the J2SE, v. 1.3.1 platform or J2SE, v. 1.4.0 platform installed on your system before installing the Mobile Edition IDE. The recommended option is for you to use the J2SE, v. 1.4.0 platform with the Mobile Edition IDE. Read “Installing the J2SE, v. 1.4.0 Platform” on page 9 for instructions on installing the J2SE, v. 1.4.0 platform.

1. **Double-click the `ffj_me_win32_en.exe` file.**

The InstallShield's Welcome screen appears.

Note – If you encounter any errors at any point during the Mobile Edition IDE installer, refer to “Troubleshooting” on page 35 for some troubleshooting hints.

2. **In the Welcome screen, click Next.**

3. Read the license agreement carefully. To agree, accept the terms of the license agreement, and click Next.

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

InstallShield attempts to locate a compatible JDK™ v. 1.3.1 or JDK v. 1.4.0 on your system.

4. Set the location of a compatible JDK software and click Next.

The Mobile Edition IDE requires local or network access to either a JDK v. 1.3.1 software or JDK v. 1.4.0 software. Specify which installed JDK software to use by doing one of the following:

- accept the default location,
- select another location from the list of found JDKs, or
- click Browse to specify a different location.

Click Next after you have set the JDK location.

5. Accept the default installation folder or click Browse to install the IDE in a directory of your choosing. Click Next to continue.

Note – The installation directory name cannot contain any spaces.

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

The following features are required for installation:

- Forte for Java, release 4.0, Mobile Edition
- Core Platform and Modules
- J2ME Wireless Toolkit

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

InstallShield installs the Forte for Java features you have selected.

8. Choose whether you wish to associate .java and .nbm files with the Forte for Java IDE. Click Next to continue.

If you choose to associate these file types, the Forte for Java IDE will automatically launch when you open these files.

9. Click Finish to complete the installation.

10. Review the Release Notes file for important information regarding the release. You can access the Release Notes from

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

11. Continue to “Using Your Newly Installed Mobile Edition IDE” on page 27 for information on setting up the Mobile Edition IDE.

Installation in the Red Hat Linux Environment

You can install the Mobile Edition IDE in a Red Hat Linux environment with a `.bin` file.

Note – You must have the J2SE, v. 1.3.1 platform or J2SE, v. 1.4.0 platform installed on your system before installing the Mobile Edition IDE. The recommended option is for you to use the J2SE, v. 1.4.0 platform with the Mobile Edition IDE. Read “Installing the J2SE, v. 1.4.0 Platform” on page 9 for instructions on installing the J2SE, v. 1.4.0 platform.

1. Execute the `ffj_me_linux_en.bin` file by typing the following command.

```
$ ffj_me_linux_en.bin [-is:javahome javahome]
```

The `-is` command switch is optional and `javahome` is the path to your installed J2SE, v. 1.3.1 or J2SE, v. 1.4.0 platform. An example of `javahome` is `/usr/j2se:`

Note – If you encounter any errors at any point during the Mobile Edition IDE installer, refer to “Troubleshooting” on page 35 for some troubleshooting hints.

In the Welcome screen, click Next.

2. Read the license agreement carefully. To agree, accept the terms of the license agreement, and click Next.

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

InstallShield attempts to locate a compatible JDK™ v. 1.3.1 or JDK v.1.4.0 platform on your system.

3. Set the location of a compatible JDK software and click Next.

The Mobile Edition IDE requires local or network access to either a JDK v. 1.3.1 software or JDK v. 1.4.0 software. Specify which installed JDK software to use by doing one of the following:

- accept the default location,
- select another location from the list of found JDKs, or
- click Browse to specify a different location.

Click Next after you have set the JDK location.

4. Accept the default installation folder or click Browse to install the IDE in a directory of your choosing. Click Next to continue.

Note – The installation directory name cannot contain any spaces.

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

The following features are required for installation:

- Forte for Java, release 4.0, Mobile Edition
- Core Platform and Modules
- J2ME Wireless Toolkit

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

InstallShield installs the Forte for Java features you have selected.

7. **Click Finish to complete the installation.**

8. **Review the Release Notes file for important information regarding the release.**

You can access the Release Notes from

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

9. **Continue to “Using Your Newly Installed Mobile Edition IDE” on page 27 for information on setting up Mobile Edition IDE.**

Installation in the Solaris Operating Environment

You can install the Mobile Edition IDE in Solaris™ operating environment (SPARC™ or Intel platform editions) with a .bin file

Note – You must have the J2SE, v. 1.3.1 platform or J2SE, v. 1.4.0 platform installed on your system before installing the Mobile Edition IDE. The recommended option is for you to use the J2SE, v. 1.4.0 platform with the Mobile Edition IDE. Read “Installing the J2SE, v. 1.4.0 Platform” on page 9 for instructions on installing the J2SE, v. 1.4.0 platform.

1. **Execute the ffj_me_solsparc_en.bin file by typing the following command:**

```
$ ffj_me_solsparc_en.bin [-is:javahome javahome]
```

The `-is` command switch is optional and `javahome` is the path to your installed J2SE v. 1.3.1 or J2SE v. 1.4.0 platform. An example of `javahome` is `/usr/j2se`.

Note – If you encounter any errors at any point during the Mobile Edition IDE installer, refer to “Troubleshooting” on page 35 for some troubleshooting hints.

2. In the InstallShield’s Welcome screen, click Next.

3. Read the license agreement carefully. To agree, accept the terms of the license agreement, and click Next.

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

InstallShield attempts to locate a compatible JDK™ v. 1.3.1 or JDK v. 1.4.0 software on your system.

4. Set the location of a compatible JDK software and click Next.

The Mobile Edition IDE requires local or network access to either a JDK v. 1.3.1 software or JDK v. 1.4.0 software. Specify which installed JDK software to use by doing one of the following:

- accept the default location,
- select another location from the list of found JDKs, or
- click Browse to specify a different location.

Click Next after you have set the JDK location.

5. Accept the default installation folder or click Browse to install the IDE in a directory of your choosing. Click Next to continue.

Note – The installation directory name cannot contain any spaces.

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

The following features are required for installation:

- Forte for Java, release 4.0, Mobile Edition
- Core Platform and Modules
- J2ME Wireless Toolkit

7. Confirm your installation choices in the installation summary pane and click Next.

InstallShield installs the Forte for Java features you have selected.

8. Click Finish to complete the installation.

9. Review the Release Notes file for important information regarding the release. You can access the Release Notes from

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

10. Continue to “Using Your Newly Installed Mobile Edition IDE” on page 27 for information on setting up the Mobile Edition IDE.

Finding Installation Subdirectories

After you have installed the Mobile Edition IDE, these subdirectories can be found under *ffj-install-dir*, your Forte for Java installation directory::

/_uninst – Contains the files used to uninstall in the IDE.

/bin – Includes the Forte for Java startup scripts (as well as the *ide.cfg* file in Microsoft Windows installations).

/docs – Contains the Ant API files and other miscellaneous documentation.

/emulator – Contains the J2ME Wireless Toolkit emulator.

/lib – Contains the JAR files that make up the IDE's core implementation and the open APIs.

/modules – Stores Forte for Java modules as JAR files.

/sources – Contains sources for libraries that might be redistributed with user applications.

/system – Go to your individual *ffj-user-dir/system* directory to get the *ide.log*, which provides information useful when requesting technical support, and to view *project.basic* and *project.last* files, which contain information on Forte for Java projects. In a Microsoft Windows system, this *ffj-user-dir/system* directory contains the project specific files under *project.basic_hidden* and *project.last* files.

Configuring the Palm OS Emulator

If you want to run the Palm OS Emulator, 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/>.

If you want to use the Palm OS Emulator device with the J2ME Wireless Toolkit Emulator, you must first configure it 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 Forte for Java IDE

An uninstaller wizard is made available to assist you in uninstall the Mobile Edition IDE. Follow the steps below to uninstall your copy of the Mobile Edition IDE, release 4.0

1. **Invoke the uninstaller from `ffj-install-dir/_uninst` directory.**

- In the Solaris operating environment or Red Hat Linux environment, type:

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

- In the Microsoft Windows system, execute the `uninstaller.exe` file located at `ffj-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 Forte for Java features is displayed.

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

4. Click Next to confirm the features 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 Mobile Edition 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 specify the user directory to use with the IDE, whether you would like automatic update checking, and to register your Mobile Edition IDE software. Use the following steps to guide you through setting up your initial IDE environment.

1. Start the Mobile Edition IDE

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

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

- For the Microsoft Windows system, click the Start menu and select Forte for Java 4.0 ME > Forte for Java or type:

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

A popup dialog window also appears and asks you to specify the fully qualified path for the user directory.

2. Specify the name of your user directory.

- For supported Solaris operating or Red Hat Linux environments, the default user directory name is `$HOME/ffjuser40me_ea`.
- On a Microsoft Windows system, there is no default directory name. The recommendation is for you to name the user directory as *drive:fully_qualified_path\ffjuser40me_ea*.

The Settings Import wizard appears.

3. 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.
- If you want to import your previous user settings, select Yes and click Next. You are prompted for the location of the previously installed IDE.

i. Specify the path or click Browse to locate the directory. Click Next

The IDE imports the settings.

ii. Click Finish to exit the wizard.

The IDE continues with the startup and several windows appear.

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

- If you replied Yes, the Update Center wizard appears. Follow the instructions on the wizard to complete the setup for automatic update checking.
- If you replied No, you can invoke the Update Center wizard, at a later time, from Tools > Update Center from the Main window of the IDE.

The registration wizard appears.

5. Register your Mobile Edition IDE software using the registration wizard.

It is recommended that you register your Mobile Edition IDE software to obtain the many benefits offered to registered users. Read “Registering With Forte for Java Developer Resources” on page 29 for more information.

a. Choose Register/Update now and click Next.

b. Select your preferred method of registration.

- Web based registration

The recommendation is that you use the Web based registration, which allows you to register your Mobile Edition IDE software and also registers you with the Forte for Java Developer Resources. For more information about the benefits of registering with the Forte for Java Developer Resources, read “Registering With Forte for Java Developer Resources” on page 29.

- Email registration or Print for FAX and Postal mail

This method of registration allows you to register your Forte for Java IDE software only. If you decide to register with the Forte for Java Developer Resources at a later time, choose Help > Registration from the Main window of the IDE.

If you choose not to register now, you can access the registration wizard by accessing Tools > Registration Wizard from the Main window of the IDE.

6. **Continue to “Validating your Mobile Edition Installation” on page 29 for instructions on validating your installation of the IDE.**

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 (\$HOME/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.

Registering With Forte for Java Developer Resources

Registering with Forte for Java Developer Resources 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, non-public builds of the IDE, preview releases of Forte for Java 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 may have downloaded the Forte for Java IDE)

To register with Forte for Java Developer Resources, go Tools > Registration Wizard from the Main window of the IDE or to

<http://forte.sun.com/services/registration/new-user>.

If you are already registered with the Sun Download Center, mysun.sun.com, or the Sun Store, you can use the same user name and password, but you will be prompted for additional information. To update your account information, go to:

<http://forte.sun.com/services/registration/accountmaintenance.html>.

Using the IDE Startup Command-Line Options

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

In the Solaris operating environment, for example, you might type:

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

Alternatively, you can put the options in the *ffj-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 Forte for Java 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 a JDK other than the default JDK. On Microsoft Windows, by default, the IDE checks the registry and selects the latest JDK available.
-hotspot -server -client -classic -native -green	Explicitly specifies the JVM variant to be used.
-cp:p <i>additional-classpath</i>	Prepends the specified classpath onto the IDE's classpath.
-cp:a <i>additional-classpath</i>	Appends the specified classpath to the IDE's classpath.
-ui <i>UI_class-name</i>	Selects a given class as Forte for Java'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>ffj-install-dir</i> instead of from your <i>ffj-user-dir</i> directory. Runs the Mobile Edition IDE in single-user mode. The default mode is multi-user.
-userdir <i>ffj-user-dir</i>	Explicitly specifies the <i>ffj-user-dir</i> directory (the location where your user settings are stored). If this option is not used in Solaris or Linux operating environments, the location is <i>user-home-dir/ffjuser40me_ea</i> . If this option is not used in Microsoft Windows NT, the user is prompted at the initial startup of the IDE for the <i>ffj-user-dir</i> directory to use. On Microsoft Windows systems, this value is stored in the registry for later use.

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

Switch Options	Description
<code>-Jvm-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 since 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.

Solaris and Linux users can modify startup scripts to suit their needs.

Where to Go From Here

This chapter contains information about available documentation resources and how to obtain IDE updates from the Forte for Java Update Center.

Updating Modules With the Update Center

Once you have Forte for Java, release 4.0, 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 “Using Your Newly Installed Mobile Edition IDE” on page 27 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 Forte for Java Update Center as the Update Center to connect and deselect NetBeans Update Center.

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

The Proxy Configuration dialog appears.

a. Modify the values as needed and click OK to return to the Update Center wizard.

5. Click Next and type your Forte for Java Update Center login name and password.

See “Registering With Forte for Java Developer Resources” on page 29, 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 may view the available help sets by clicking Help Sets from the Help menu.
- The Forte for Java Developer Resources site at <http://forte.sun.com/ffj/index.html> also contains a wealth of information and support resources, including Forte for Java news, technical articles, a support knowledge base, forums and more.

You can also access this site from the IDE by selecting 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.

Mobile Edition IDE Installation

The following describes some errors you may encounter during the Mobile Edition IDE installation.

1. Error writing file = Not enough temporary disk space

If you received an error similar to the following, use the solution below to continue with the Mobile Edition IDE installation.

```
$ InstallShield Wizard

Initializing InstallShield Wizard...

Searching for Java(tm) Virtual Machine...
.....
Running InstallShield Wizard...
Error writing file = There may not be enough temporary disk space.
Try using -is:tempdir to use a temporary directory on a partition
with more disk space.
```

- **Solution:** Invoke the installer with the `-is:tempdir` commandline option. For example, on a Solaris operating environment, type the following:

```
$ ffj_me_solsparc_en.bin -is:tempdir /temp javahome
```

2. Could not find JVM

If you received an error similar to the following, use the solution below to continue with the Mobile Edition IDE installation.

```
$ InstallShield Wizard

Initializing InstallShield Wizard...

Searching for Java(tm) Virtual Machine...
.....
Could not find JVM
```

- **Solution:** Invoke the installer with the `-is:javahome` command line option. For example, on a Solaris operating environment, type the following:

```
$ ffj_me_solsparc_en.bin -is:javahome javahome
```

Mobile Edition IDE Startup

The following are some error messages you might receive during configuration of the newly installed Mobile Edition IDE software.

1. No J2SE was found at `/usr/j2se/bin/java`

```
$ ./runide.sh
$ ERROR: No J2SE was found at /usr/j2se/bin/java.
ERROR: The following required 5.7 patches have not been installed
on system "yourmachine": 106950-16 106327-11 106541-17 106980-17
108376-29 107656-07 107081-37 107636-08 107702-08 108374-05
107226-18 108244-03 106748-04 106300-12 107058-01
NOTE: For help with the J2SE and patch installs please refer to
the file /opt/SUNWspro/prod/READMEs/client_readme.txt, or talk to
your system administrator.
Current runtime environment is not compatible. Exiting...
[1] Exit 2 ./runide.sh
```

- **Solution:** Install the J2SE v.1.4.0 software on your system. For Solaris operating environment, include any patches needed. Refer to “Installing the J2SE, v. 1.4.0 Platform” on page 9 for more information. on installing J2SE, v. 1.4.0 on your system.

2. Unable to load java.dll
 - **Solution:** 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 platform.
3. Mobile Edition IDE is not pointing to the J2SE, v.1.4.0 platform you had specified during the IDE installation.

If you have had specified the location of the J2SE, v.1.4.0 platform during the Mobile Edition IDE installation, but the IDE is not pointing to that location, you may have received an error similar to the following:

```
$ ./runide.sh
ERROR: The J2SE[tm] 1.3.0 found at /yourmachine/jdk1.3/bin/java
cannot be used by Forte Mobile Edition. J2SE[tm] 1.4 is
recommended.
NOTE: You can download and install the J2SE[tm] related Solaris[tm]
operating environment patches from http://access1.sun.com/ffjea or
see your system administrator.

Current runtime environment is not compatible. Exiting...

[1]      Exit 2                ./runide.sh
```

- **Solution:** Check the JAVA related environment variables already set prior to invoking the IDE and unset them.

The values of the \$JAVA_PATH and \$JDK_HOME environment variables override the value of the J2SE path you had specified during the IDE installation. You need to unset these environment variables or use the -jdkhome command line option when starting the IDE.

Adding MIDlets to a MIDlet Suite

When you create or add a MIDlet to a MIDlet suite, you must be sure to update the contents of the JAR file. The Mobile Edition IDE will not update the JAR contents automatically.

To update the contents of the JAR file:

1. **Right-click on the MIDlet suite and choose Edit Suite.**

This opens the Edit Suite dialog box.

2. **Select the JAR Contents tab.**

3. **Expand the nodes in the right window and select the contents you want to add to the JAR. Click the Add button for each item you want to add.**

The new contents list is displayed in the left window.

4. **Click OK to finish.**

The contents of the MIDlet Suite's JAR file is updated.

Configuring an External Compiler

The Java Wireless Toolkit v.1.0.3 preverifier does not support JDK 1.4.0 classes. If you are using J2SE v.1.4.0, 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.

To configure the Preverify compiler:

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 elipsis(...) button in the External Compiler property field and add the switch `-target 1.1` to the Process field.**

The syntax for the External Compiler property is:

```
{jdk.home}{/}bin{/}javac -target 1.1 {debug info} {deprecation} {optimize}  
{outputdir} {encoding} {source opt} {bootclasspath.opt} {bootclasspath} -classpath  
{filesystems}{:} {classpath} {files}.
```

4. **Click OK to finish.**

Solaris Patch Identifications and Descriptions

This appendix provides the Solaris™ patch identification numbers and descriptions of the patches included with the Java™ 2 Platform, Standard Edition 1.4.0 (J2SE™, v.1.4.0 platform) installation.

TABLE A-1 lists the Solaris patch identification numbers and description for the Solaris™ 7 *SPARC Platform Edition*.

TABLE A-2 lists the Solaris patch identification numbers and description for the Solaris™ 8 *SPARC Platform Edition*.

TABLE A-1 Patch Identifications and Descriptions for Solaris 7 *SPARC Platform Edition*

Patch Identification Number	Patch Description
106950-16	Linker
106327-11	Solaris 7 libC sparc
106300-12	V9 libC
107544-03	Kernel update
106541-17	Kernel update
106980-17	Libthreads
108376-29	Openwindows 3.6.1 Xsun
107656-07	Openwindows libXt
107081-37	Motif 1.2 and 2.1
107636-08	API for X input
107702-08	CDE dt session
108374-05	CDE libDtWidget
107226-18	CDE window manager
108244-03	libaio
106748-04	Solaris 7 make/sccs sparc
107058-01	Assembler

TABLE A-2 Patch Identifications and Descriptions for Solaris 8 *SPARC Platform Edition*

Patch Identification Number	Patch Description
109147-07	Solaris 8 interprocedural optimizer
108434-04	Solaris 8 libC sparc
108435-04	V9 libC
110383-02	libnvpair
111293-04	/usr/lib/libdevinfo.so.1
108528-10	SIGEMT
108652-37	Xserver
108921-13	CDE 1.4 dtwm
108940-29	Motif 2.1
109279-15	udp and multicast
109740-04	udp and multicast
109742-04	udp and multicast
108773-12	X input methods
109607-01	tdlib_iso.h
111177-04	alt-libthread

