Forte™ for Java™ 4, Enterprise Edition Getting Started Guide

Forte for Java 4

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Part No. 816-4063-10
June 2002, Revision A

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Contents

Before You Begin

This document provides installation instructions for the Forte™ for Java™ 4, Enterprise 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
- Application servers with the IDE
- Setting up databases with the IDE
- 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
- Other documentation resources

This document instructs you to enter several commands at the command line. Command lines vary slightly 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 Forte for Java 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 Microsoft Windows systems
- `rpm` command in the Red Hat Linux environment

If you are unfamiliar with or 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 Forte for Java 4, Enterprise Edition.

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

Chapter 3 describes the steps to install the Forte for Java 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 Forte for Java IDE. The command-line options are provided and information about product registration is also included.

Chapter 5 steps you through the validation of the Forte for Java IDE installation by using a J2EE™ Reference Implementation 1.3.1 instance during the creation of a simple HelloWorld application.

Chapter 6 provides some information for customizing your IDE installation using the embedded PointBase Restricted Edition 4.2 database and the internal UDDI registry server.

Chapter 7 gives information on integrating other application servers with the IDE.

Chapter 8 describes steps to update the IDE modules using the Forte for Java Update Center. Information about other documentation resources are also included in this chapter.

Chapter 9 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).

Appendix B lists the default port assignments used by the Forte for Java 4 modules, third-party components, and application servers available for use with the IDE.

Typographic Conventions

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

Related Documentation

Forte for Java 4 documentation includes books delivered in Acrobat Reader (PDF) format, online help, readme files of example applications, and Javadoc™ documentation.

Documentation Available Online

The documents in this section are available from the Forte for Java Developer Resources (or Sun™ ONE Studio Developer Resources) portal and the `docs.sun.com`SM web site.

The documentation link of the Forte for Java Developer Resources portal is at `http://forte.sun.com/ffj/documentation/`, or can be accessed by selecting Documentation in the Help menu of the IDE. The `docs.sun.com` web site is at `http://docs.sun.com`.

- Release notes (HTML format)

  Available for each Forte for Java 4 edition. Describe last-minute release changes and technical notes.

- *Forte for Java 4, Community Edition Getting Started Guide* (PDF format) - part no. 816-4062-10
  Forte for Java 4, Enterprise Edition Getting Started Guide (PDF format) - part no. 816-4063-10

  Available for each Forte for Java 4 edition. Describes how to install the Forte for Java 4 product on each supported platform and includes other pertinent information, such as system requirements, upgrade instructions, web server and application server installation instructions, command-line switches, installed subdirectories, Javadoc setup, database integration, and information on how to use the Update Center.

- The Forte for Java Programming Series (PDF format)

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

  - *Building Web Components* - part no. 816-4337-10

    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 With Forte for Java* - part no. 816-4061-10

  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. 816-4060-10

  Describes how to build EJB components—session beans and entity beans with container-managed or bean-managed persistence—using the Forte for Java 4 EJB Builder wizard and other components of the IDE.

- *Building Web Services* - part no. 816-4059-10

  Describes how to use the Forte for Java 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.

- Forte for Java 4 tutorials (PDF format)

  You can also find the completed tutorial applications at `http://forte.sun.com/ffj/documentation/tutorialsandexamples.html`

  - *Forte for Java 4, Community Edition Tutorial* - part no. 816-4058-10

    Provides step-by-step instructions for building a simple J2EE web application using Forte for Java 4, Community Edition tools.

  - *Forte for Java 4, Enterprise Edition Tutorial* - part no. 816-4057-10

    Provides step-by-step instructions for building an application using EJB components and Web Services technology.

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.

Online Help

Online help is available inside the Forte for Java 4 development environment. You can access help by pressing the help key (Help in a Solaris environment, F1 on Microsoft Windows and Linux), or by choosing Help → Contents. Either action displays a list of help topics and a search facility.

Examples

You can download several examples that illustrate a particular Forte for Java 4 feature, as well as completed tutorial applications from the Developer Resources portal, at

`http://forte.sun.com/ffj/documentation/tutorialsandexamples.html`

Javadoc Documentation

Javadoc documentation is available within the IDE for many Forte for Java 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 (816-4063-10) of your document in the subject line of your email.

CHAPTER 1

Preparing for Installation

This chapter contains information needed to prepare for the installation of the Forte for Java 4, Enterprise Edition IDE (hereafter referred to as "Forte for Java 4 IDE").

Overview of the Installation

The following steps outline the general process of installing the Forte for Java 4 IDE on your system. This process includes the validation, customization, and registration of your Forte for Java 4 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 (hereafter referred to as "J2SE, v. 1.4.0 platform") from the system in which you plan to install the Forte for Java 4 IDE.

Note – The recommended option is the J2SE, v. 1.4.0 platform with the Forte for Java 4 IDE. Read Chapter 2 for detailed installation instructions.

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2. Verify that the system on which you are installing the Forte for Java software meets the minimum system requirements. See "System Requirements" on page 3 for more information.

3. Determine which software you want the Forte for Java 4 IDE installer to install. The Forte for Java 4, Enterprise Edition installer includes the following software:
   - Core Platform and Modules (required)
   - PointBase Server 4.2 Restricted Edition
   - J2EE Reference Implementation 1.3.1
   - Solaris Developer Modules (available in Solaris operating environments only)

Note – The best option is to install the J2EE Reference Implementation 1.3.1 and the PointBase Server 4.2 Restricted Edition with the IDE. These software products are provided to enable you to quickly develop a simple J2EE application, as described in Chapter 5.

4. Determine if you want to keep your previous version of the Forte for Java IDE. If you do, identify a different directory in which to install Forte for Java 4, Enterprise 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 prior to installing Forte for Java 4, Enterprise Edition.

5. Determine whether you want to keep your current Forte for Java 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.

6. Install Forte for Java 4, Enterprise 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.

8. Validate your installation of the Forte for Java 4 IDE by starting an instance of the J2EE Reference Implementation 1.3.1 server and creating a simple J2EE application. Read Chapter 5 for additional information.

After you have validated that your Forte for Java 4 IDE installation is working properly, perform the following steps, if desired:

1. Customize your Forte for Java 4 IDE installation by setting up the PointBase database server. Refer to the instructions in Chapter 6.

2. Configure the use of other application servers with the Forte for Java 4 IDE. Read Chapter 7 for configuration instructions.

Supported Platforms

Forte for Java 4, Enterprise Edition has been tested with the following systems:

- Microsoft Windows 2000 Professional system (with latest service packs)
- Microsoft Windows XP
- 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 NT SP6 systems
- Solaris 8 operating environment (32-bit, SPARC platform)
- Solaris 9 operating environment (32-bit, SPARC platform)

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 4, Enterprise Edition System Requirements

Supported Platforms	Free Hard Disk Space Required for Installation	Minimum Configuration
Windows 2000, Windows XP, Windows NT4, SP6[1]	180 MB	Pentium III, 500 MHz, 512 MB RAM
Red Hat Linux 7.2	180 MB	Pentium III 500 Mhz, 512 MB RAM
Solaris 8, Solaris 9 operating environments (64-bit, SPARC platform)	320 MB	Ultra 60, 450 MHz, 512 MB RAM
Solaris 8, Solaris 9 operating environments (32-bit, SPARC platform)[1]	320 MB	Ultra 60, 450 MHz, 512 MB RAM

1. 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 Forte for Java 4 IDE.

CHAPTER 2

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 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 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 Forte for Java 4 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 v. 1.3.1 or v. 1.4.0 of the J2SE platform is installed

If you run the Forte for Java 4 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 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 of the J2SE platform available to your system, you must install the supported J2SE, v. 1.4.0 platform.

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

   a. **Obtain the J2SE, v. 1.4.0 installer from** `http://www.sun.com/software/sundev/jde/buy/index.html` **or from the Forte for Java product CD.**

   b. **Install the J2SE, v. 1.4.0 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 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 Forte for Java 4 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 Forte for Java 4 IDE.

   The `solaris_patch_installer`, provided with the Forte for Java CD and also available from the Forte for Java 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 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 12 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 platform on your Microsoft Windows system, contact your system administrator for assistance.

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

1. **If you have not already done so, download the `j2sdk-1_4_0-win.exe` installer file from `http://www.sun.com/software/sundev/jde/buy/index.html` into** *j2se-directory* **or locate the installer on the Forte for Java CD.**

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

Use the following information if you are accessing the installer file from the download page for the J2SE, v. 1.4.0 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 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 Windows (all languages, including English).**

   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-win.exe` to proceed with the download of the file 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.**

   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 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 platform, uninstall it. Use the Microsoft Windows Add/Remove Programs utility to uninstall the previous release of the J2SE, v. 1.4.0 platform. Choose Start → Settings → Control Panel to access the utility.

3. **Start the installation wizard by double-clicking the `j2sdk-1_4_0-win.exe` file in the *j2se-directory* or from the Forte for Java product CD.**

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

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4. **Follow the instructions on the wizard panes to complete the J2SE, v. 1.4.0 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 Forte for Java software.

Installing the J2SE Platform in the Red Hat Linux Environment

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

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

1. **If you have not already done so, download the `j2sdk-1_4_0-linux-i386-rpm.bin` file into *j2se-directory* or locate the file on the Forte for Java 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.

Use the following information if you are accessing the installer file from the download page for the J2SE, v. 1.4.0 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 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 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-linux-i386-rpm.bin` and specify the directory, *j2se-directory*, 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.**

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

2. **Double-click the `j2sdk-1_4_0-linux-i386-rpm.bin` file on the Forte for Java product CD or type the following commands:**

```
$ cd j2se-directory
$ chmod a+x j2sdk-1_4_0-linux-i386-rpm.bin
$ j2sdk-1_4_0-linux-i386-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-linux-i386-rpm` 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 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 platform, uninstall it.

Note – The default installation location for the prerelease versions of the J2SE platform is `/usr/java/j2sdk1.4.0`. That is the same location in which the RPM package of the final version of the J2SE, v. 1.4.0 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 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 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 platform by typing the following:**

```
# cd j2se-directory
# rpm -iv j2sdk-1.4.0-linux-i386.rpm
```

The packages for the J2SE, v. 1.4.0 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 Forte for Java software.

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 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 platform.

Note – The Solaris 9 environment is preconfigured with the J2SE, v. 1.4.0 platform. It is not necessary to add the J2SE, v. 1.4.0 platform unless it was explicitly removed from your Solaris 9 environment.

Installing Patches in a Solaris 8 Operating Environment

Note – If you are unfamiliar with or 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 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 Forte for Java 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.

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 patches needed for the installation of the J2SE, v. 1.4.0 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.

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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
```

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, v. 1.4.0 Platform in a Solaris 8 Environment

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

Prior to installing the J2SE, v. 1.4.0 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 12 for more information.

To install the 64-bit J2SE, v. 1.4.0 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, v. 1.4.0 Platform in a 32-bit Solaris 8 Environment" on page 15 for more information.

2. **Install the J2SE, v. 1.4.0 supplemental release for 64-bit operation in your 64-bit Solaris 8 environment.**

   Use the instructions in "Installing the J2SE, v. 1.4.0 Supplemental Release for 64-bit Operation in a Solaris 8 Environment" on page 18 for more information.

Installing the J2SE, v. 1.4.0 Platform in a 32-bit Solaris 8 Environment

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

Follow these steps to install the J2SE, v. 1.4.0 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-solsparc.tar.Z` file into the *j2se-directory*. You can also obtain the file from the Forte for Java 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.

If you are accessing the installer file from the Forte for Java 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 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-solsparc.tar.Z` from the product download page or obtain the file from the Forte for Java product 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 Forte for Java product 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-solsparc.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 is the same location 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 SUNWjpj3m 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 "Installing the J2SE, v. 1.4.0 Supplemental Release for 64-bit Operation in a Solaris 8 Environment" on page 18 for more information.

Otherwise, continue to Chapter 3 for instructions on installing the Forte for Java software.

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

---

Note – If you are unfamiliar with or unsure about installing Solaris packages or the J2SE, v. 1.4.0 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 platform in your Solaris 8 environment:

1. **If you have not already done so, download the `j2sdk-1_4_0-solsparcv9.tar.Z` file into the *j2se-64bit-directory*. You can also obtain the file from the Forte for Java product CD.**

Note – Ensure that the *jse-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 Forte for Java 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 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-solsparcv9.tar.Z` from the product download page or obtain the file from the Forte for Java product 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.**

   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-solsparcv9.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 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 `pkgrm` 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 Forte for Java software.

Uninstalling the J2SE, v. 1.4.0 Platform

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

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

Caution – Removing the J2SE, v. 1.4.0 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 Solaris, v. 1.4.0 platform and associated Solaris patches from your system.

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

CHAPTER 3

Installing the Forte for Java 4 IDE

This chapter contains information on how to install Forte for Java 4, Enterprise Edition on each of the supported platforms. The subdirectories installed with the IDE are described and uninstallation instructions are also provided.

Supporting Previous Forte for Java Software Releases

To upgrade your previous version of the IDE to Forte for Java 4 software, 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 the Forte for Java 4 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 Forte for Java 4 software.

- 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.

Creating a Shared Installation

If you want to share a Forte for Java installation between multiple users, you must install the Forte for Java 4 IDE into a shared directory.

After installation of the IDE in the supported Solaris environment or Red Hat Linux environment, all user settings are stored in the `ffjuser40ee` 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 recommended name for the user directory in a Microsoft Windows system is *drive:fully-qualified-path*`\ffjuser40ee`. This name is entered as 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. 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 some troubleshooting information in Chapter 9, if you want to use a different location for your user directory.

Installing the Forte for Java 4 IDE on the Supported Platforms

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

Installation on Microsoft Windows Systems

You can install the Forte for Java 4 IDE on a supported Microsoft Windows system 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 Forte for Java 4 IDE. The recommended option is the J2SE, v. 1.4.0 platform with the Forte for Java 4 IDE. Read Chapter 2 for instructions on installing the software.

---

1. **If you have not already done so, download the `ffj_ee_win32_en.exe` installer file from `http://www.sun.com/software/sundev/jde/buy/index.html` or locate the file on the Forte for Java 4 product CD.**

   If you are downloading the file from the product download page, do the following:

   a. Save it into the *ffj-download-directory*.

   b. Write down the serial number provided to you on the download page.

   If you are accessing the file from the Forte for Java 4 product CD, locate the serial number in the Forte for Java 4 product package.

2. **Double-click the `ffj_ee_win32_en.exe` file in the *ffj-download-directory* or on the Forte for Java 4 product CD.**

   The InstallShield's Welcome screen appears.

Note – If you encounter errors at any point during the Forte for Java 4 IDE installation, refer to Chapter 9 for some troubleshooting hints.

---

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

4. **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.

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

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

   The Forte for Java 4 IDE requires local or network access to either v. 1.3.1 or v. 1.4.0 of the Java 2 SDK software. Specify which installed software to use by doing one of the following:

   - Accept the default location.
   - Select another location from the list of found Java 2 SDK software.
   - Click Browse to specify a different location.

   Click Next after you have set the Java 2 SDK location.

6. **Type the serial number provided with the product CD or available from the product download page. Alternatively, click Next without entering a serial number to generate a trial serial number.**

   a. **Click Yes to automatically generate a trial serial number.**

      The trial serial number expires in 60 days.

   b. **Write down the trial serial number that appears.**

      The trial serial number gives you access to the Update Center services once you have registered the product. Read Chapter 4 for product registration information and "Updating Modules With the Update Center" on page 61 for information on the Forte for Java Update Center.

   c. **Click Next a second time to continue with the installation.**

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

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

---

8. **Select the Forte for Java 4 components you want to install.**

   The following components are available:

   - Core Platform and Modules (required)
   - PointBase Server 4.2 Restricted Edition
   - Java 2 Platform, Enterprise Edition (J2EE) Reference Implementation 1.3.1

Note – The best option is to install the J2EE Reference Implementation 1.3.1 and the PointBase Server 4.2 Restricted Edition with the IDE. These software products are provided to enable you to quickly develop a simple J2EE application, as described in Chapter 5.

---

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

   InstallShield installs the Forte for Java 4 components you have selected.

10. **Decide whether you want to associate `.java` and `.nbm` files with the Forte for Java 4 IDE. Click Next to continue.**

    If you decide to associate these file types, the Forte for Java 4 IDE will automatically launch when you open these files.

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

12. **Review the Release Notes file for important information regarding the release. You can access the Release Notes from the product CD or from** `http://forte.sun.com/ffj/documentation/index.html`.

13. **Continue to Chapter 4 for information on setting up the Forte for Java 4 IDE.**

Installation in the Red Hat Linux Environment

You can install the Forte for Java 4 IDE in a supported 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 Forte for Java 4 IDE. The recommended option is the J2SE, v. 1.4.0 platform with the Forte for Java 4 IDE. Read Chapter 2 for instructions on installing the software.

---

1. **If you have not already done so, download the** `ffj_ee_linux_en.bin` **installer file from** `http://www.sun.com/software/sundev/jde/buy/index.html` **or locate the file on the Forte for Java 4 product CD.**

   If you are downloading the file from the product download page, do the following:

   a. **Save it into the** *ffj-download-directory***.**

   b. **Write down the serial number provided to you on the download page.**

   If you are accessing the file from the Forte for Java 4 product CD, locate the serial number in the Forte for Java 4 product package.

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

   If you are installing to your local system, the `DISPLAY` environment variable should be set 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
```

3. **Set the execute permission on the `ffj_ee_linux_en.bin` file and execute it by double-clicking the file from the Forte for Java 4 product CD or by typing the following:**

```
$ cd ffj-download-directory
$ chmod a+x ffj_ee_linux_en.bin
$ ffj_ee_linux_en.bin
```

Note – If you encounter errors at any point during the Forte for Java 4 IDE installation, refer to Chapter 9 for some troubleshooting hints.

---

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

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.

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

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

   The Forte for Java 4 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 by doing one of the following:

   - Accept the default location.
   - Select another location from the list of found Java 2 SDK software.
   - Click Browse to specify a different location.

   Click Next after you have set the Java 2 SDK location.

7. **Type the serial number provided with the product CD or available from the product download page. Alternatively, click Next without entering a serial number to generate a trial serial number.**

   a. **Click Yes to automatically generate a trial serial number.**

      The trial serial number expires in 60 days.

   b. **Write down the trial serial number that appears.**

      The trial serial number gives you access to the Update Center services once you have registered the product. Read Chapter 4 for product registration information and “Updating Modules With the Update Center” on page 61 for information on the Forte for Java Update Center.

   c. **Click Next a second time to continue with the installation.**

8. **Accept the default installation directory 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.

---

9. **Select the Forte for Java 4 components you want to install.**

   The following components are available:

   - Core Platform and Modules (required)
   - PointBase Server 4.2 Restricted Edition
   - Java 2 Platform, Enterprise Edition (J2EE) Reference Implementation 1.3.1

Note – The best option is to install the J2EE Reference Implementation 1.3.1 and the PointBase Server 4.2 Restricted Edition with the IDE. These software products are provided to enable you to quickly develop a simple J2EE application, as described in Chapter 5.

---

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

    InstallShield installs the Forte for Java 4 components you have selected.

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

12. **Review the Release Notes file for important information regarding the release. You can access the Release Notes from the product CD or from `http://forte.sun.com/ffj/documentation/index.html`.**

13. **Continue to Chapter 4 for information on setting up the Forte for Java 4 IDE.**

Installation in the Solaris Operating Environments

You can install the Forte for Java 4 IDE in a supported Solaris operating 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 Forte for Java 4 IDE. The recommended option is the J2SE, v. 1.4.0 platform with the Forte for Java 4 IDE. Read Chapter 2 for instructions on installing the software.

---

1. **If you have not already done so, download the `ffj_ee_solsparc_en.bin` installer file from `http://www.sun.com/software/sundev/jde/buy/index.html` or locate it on the Forte for Java 4 product CD.**

   If you are downloading the file from the product download page, do the following:

   a. Save it into the *ffj-download-directory*.

   b. Write down the serial number provided to you on the download page.

   If you are accessing the file from the Forte for Java 4 product CD, locate the serial number in the Forte for Java 4 product package.

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

   If you are installing to your local system, the `DISPLAY` environment variable should be set 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
```

3. **Set the execute permission on the `ffj_ee_solsparc_en.bin` file and execute it by double-clicking the file from the Forte for Java 4 product CD or by typing the following:**

```
$ cd ffj-download-directory
$ chmod a+x ffj_ee_solsparc_en.bin
$ ffj_ee_solsparc_en.bin
```

Note – If you encounter errors at any point during the Forte for Java 4 IDE installation, refer to Chapter 9 for some troubleshooting hints.

---

4. **In the InstallShield's Welcome screen, click Next.**

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.

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

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

   The Forte for Java 4 IDE requires local or network access to either v. 1.3.1 or v. 1.4.0 of the Java 2 SDK software. Specify which installed Java 2 SDK software to use by doing one of the following:

   - Accept the default location.
   - Select another location from the list of found Java 2 SDK software.
   - Click Browse to specify a different location.

   Click Next after you have set the Java 2 SDK location.

7. **Type the serial number provided with the product CD or available from the product download page. Alternatively, click Next without entering a serial number to generate a trial serial number.**

   a. **Click Yes to automatically generate a trial serial number.**

      The trial serial number expires in 60 days.

   b. **Write down the trial serial number that appears.**

      The trial serial number gives you access to the Update Center services once you have registered the product. Read Chapter 4 for product registration information and "Updating Modules With the Update Center" on page 61 for information on the Forte for Java Update Center.

   c. **Click Next a second time to continue with the installation.**

8. **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.

---

9. **Select the Forte for Java 4 components you want to install.**

   The following components are available:

   - Core Platform and Modules (required)
   - PointBase Server 4.2 Restricted Edition
   - Java 2 Platform, Enterprise Edition (J2EE) Reference Implementation 1.3.1
   - Solaris Developer Modules

Note – The best option is to install the J2EE Reference Implementation 1.3.1 and the PointBase Server 4.2 Restricted Edition with the IDE. These software products are provided to enable you to quickly develop a simple J2EE application, as described in Chapter 5.

---

10. **If you chose to install the Solaris Developer Modules, specify the path to the Forte Compiler Collection (FCC).**

    If you are installing the IDE on a server that will be accessed by multiple users, the path name specified for the FCC software must be valid and accessible to all those IDE users.

    If you have not installed the Forte Compiler Collection or you do not readily know the path to the Forte Compiler Collection, leave the FCC Path blank and click Next.

    The Forte Compiler Collection software refers to an installation of Forte Developer 7 software and you can download it from `http://www.sun.com/software/sundev/suncc/buy/`.

    You can set or reset the FCC path at a later time by using the `forte_fcc` utility, which can be found in *ffj-install-dir*`/bin/forte_fcc`. Read the `forte_fcc` man page at *ffj-install-dir*`/man/man1` for additional information.

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

    InstallShield installs the Forte for Java 4 components you selected.

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

13. **Review the Release Notes file for important information regarding the release. You can access the Release Notes from the product CD or from** `http://forte.sun.com/ffj/documentation/index.html`**.**

14. **Continue to Chapter 4 for information on setting up the Forte for Java 4 IDE.**

Installing the IDE Using the Command-line Options

If you prefer to install the Forte for Java 4 IDE using the command line, use the following steps to guide you. You need to create a file called *installer*`.sp` and add to the file the 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 Forte for Java 4 product CD.**

   a. **Save the installer file into the** *ffj-download-directory***.**

      On a Microsoft Windows systems, download the `ffj_ee_win32_en.exe` file. In a Solaris environment, download the `ffj_ee_solsparc_en.bin file.` In a Red Hat Linux environment, download the `ffj_ee_linux_en.bin` file.

   b. **Write down the serial number provided to you on the download page or locate the serial number in the Forte for Java 4 product package, if you are using the product CD.**

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

   The IDE installer will read the command-line options you include in the *installer*`.sp` file.

   On a Microsoft Windows system, create a file called `ffj_ee_win32_en.sp` and place the file in the *ffj-download-directory*.

   For the Solaris and Linux environments, name the file `ffj_ee_solsparc_en.sp` and `ffj_ee_linux_en.sp`, respectively.

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 Forte for Java 4 Command-line Installation Options

Installation Options	Description
`fortehome=`*fff-install-dir* `fh=`*fff-install-dir*	Specifies the directory into which you want the IDE installed. This is a mandatory command-line parameter for the `-silent` mode.
`jdkhome=`*jdkhome-dir* `jh=`*jdkhome-dir*	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 `-silent` mode.

`serialnumber=`*serial-number*
`serialnumber=trial`
`sn=`*serial-number*
`sn=trial`
	Sets the serial number for the IDE. Use the serial number you received when you downloaded the Forte for Java 4 IDE installer software, or the one included with the Forte for Java 4 product package. You may also specify the value `trial` to generate a temporary license that will expire after 60 day. This is a mandatory command-line parameter for the `-silent` mode.

`pointbaseinstall=yes`
`pointbaseinstall=no`
`pi=yes`
`pi=no`
	Specifies whether to install the PointBase Server 4.1 Network Edition. The default value is `yes`.

`j2eeinstall=yes`
`j2eeinstall=no`
`ji=yes`
`ji=no`
	Specifies whether to install the J2EE Reference Implementation 1.3.1. The default value is `yes`.

`fccHome=`*FCC_path* `fch=`*FCC_path*	(Solaris only) Sets the path to the directory where the Forte Compiler Collection (FCC) is installed. This option is valid only on a supported Solaris environment.

`si=yes`
`si=no`
`soldevInstall=yes`
`soldevInstall=no`
	(Solaris only) Specifies whether to install the Solaris Developer Modules. The default value is `yes`. This option is valid only on supported Solaris environments.

`-silent`	Specify this option on the command line and not in the *installer*`.sp` 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.

For example, on a Microsoft Windows system, the `ffj_ee_win32_en.sp` might have the following contents:

```
fh=C:\forte4j
jh=C:\j2sdk1.4.0
sn=trial
pi=yes
ji=yes
```

On a Solaris environment, the `ffj_ee_solsparc_en.sp` might have the following contents:

```
fh=/yourserver/forte4j
jh=/usr/j2se
sn=trial
pi=yes
ji=yes
si=yes
fch=/yourserver/fcc
```

4. **Invoke the installer from the command line.**

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

```
C:\>cd ffj-download-directory
C:\ffj-download-directory> ffj_ee_win32_en.exe -silent
```

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

```
$ cd ffj-download-directory
$ ffj_ee_solsparc_en.bin -silent
```

The installer uses the options you have specified in the *installer*`.sp` file for your system and displays the following on the command prompt 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 Forte for Java 4 IDE installation, refer to Chapter 9 for some troubleshooting hints.

---

5. **Continue to Chapter 4 for information on setting up the Forte for Java 4 IDE.**

Finding Installation Subdirectories

After you have installed the Forte for Java 4 IDE, the subdirectories listed in TABLE 3-2 can be found under *fff-install-dir*, your Forte for Java 4 installation directory.

TABLE 3-2 Forte for Java Installation Subdirectories

Subdirectory Name	Description
`LICENSE.html`	Contains the Sun Microsystems, Inc. binary code license agreement.
`/_uninst`	Contains the files used to uninstall in the IDE.
`/beans`	Contains JavaBeans components installed in the IDE.
`/bin`	Includes the Forte for Java startup scripts (as well as the `ide.cfg` file in Microsoft Windows installations). (Solaris only) Also contains launch points for the standalone applications delivered with the Solaris tools, including `xemacs`, `gvim`, `xdesigner`, and `forte_fcc`.
`/docs`	Contains the Forte for Java help files and other miscellaneous documentation.

TABLE 3-2 Forte for Java Installation Subdirectories *(Continued)*

Subdirectory Name	Description
`/emacs`	(Solaris only) Contains emacs files.
`/examples`	Contains source files for examples that illustrate several key features of the Forte for Java 4, Enterprise Edition.
`/j2sdkee1.3.1`	Contains the J2EE Reference Implementation v. 1.3.1 files, if you chose to install those files during the Forte for Java installation process.
`/jwsdp`	Contains files and directories specific to the Java Web Services Developer Pack.
`/lib`	Contains the JAR files that make up the IDE's core implementation and the open APIs.
`/man`	(Solaris only) Contains man pages for Solaris Developer Modules, if installed.
`/modules`	Stores Forte for Java modules as JAR files.
`/platform`	(Solaris only) Contains platform-specific files.
`/pointbase`	Contains four subdirectories, `client`, `databases`, `docs`, and `server`. The `client` directory contains the PointBase console, command-line utilities, and examples of a PointBase application. The `databases` directory contains a sample database. The `docs` directory contains PointBase documentation. The `server` directory contains the PointBase server.
`/sources`	Contains sources for libraries that might be redistributed with user applications.
`/system`	Includes files and directories used by the IDE for special purposes. Go to your individual *fff-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. On a Microsoft Windows system, this *fff-user-dir*`/system` directory contains the project-specific files under `project.basic_hidden` and `project.last` files.
`/tomcat401`	Contains Tomcat-specific files.
`update_tracking.xml`	Contains information used by the AutoUpdate Center.

Uninstalling the Forte for Java 4 IDE

An uninstaller wizard is available to assist you in the uninstallation of the Forte for Java 4 IDE. Follow these steps to uninstall your copy of the Forte for Java 4 IDE:

1. **Start the uninstaller from the *ffj-install-dir*/_uninst directory.**
   - In a supported Solaris operating environment or Red Hat 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 *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 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.**

CHAPTER 4

Using Your Newly Installed Forte for Java 4 IDE

After you have successfully installed the Forte for Java 4 IDE, use the information in this chapter to launch, set up, and register your Forte for Java 4 IDE. Details about the available command-line switch options are also included.

Setting Up Your Forte for Java 4 IDE

When you first start up the Forte for Java 4 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 Forte for Java 4 IDE.**
   - For the supported Solaris operating environments or a Red Hat Linux environment, type:

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

- For a Microsoft Windows system, double-click the Forte for Java 4.0 EE icon created on your desktop or click the Start menu and choose Forte for Java 4.0 EE → Forte for Java. Alternatively, from a command prompt window, type:

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

  If this is the first time you are installing this version of the Forte for Java 4 IDE on a Microsoft Windows system, you are prompted for the user directory.

2. **On a Microsoft Windows system, 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 choose 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 than the directory where the IDE is installed.

   The recommended name for the user directory in a Microsoft Windows system is *drive:fully-qualified-path*`\ffjuser40ee`. This name is entered as 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 some troubleshooting information in TABLE 9-3, 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.**

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

     For supported Solaris or Red Hat Linux environments, the default user directory is created and named `$HOME/ffjuser40ee`.

     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.

- 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.

  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 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 clicked Finish, the IDE continues with the startup and several windows appear. The registration wizard appears. Continue with Step 10 below.

   (Solaris only) If you clicked Next and you installed the Solaris Developer Modules, the Text Editor Preference pane appears. Continue with Step 7.

   Otherwise, if you clicked Next, the Module Installation pane appears. Continue with Step 8.

7. **(Solaris only) In the Text Editor Preference pane, select the text editor you choose to use with the IDE. Then, click Next to continue with the setup, or Finish to continue with the IDE startup.**

   The installation of the Solaris Developer Modules includes the XEmacs and VIM text editors. You can select from the IDE's built-in editor, XEmacs, or VIM as the default text editor to use with the IDE. If you decide to modify the default text editor at a later time, choose Tools → Setup Wizard from the main menu of the IDE.

   If you clicked Finish, the IDE continues with the startup and several windows appear. The registration wizard appears. Continue with Step 10 below.

   Otherwise, if you clicked Next, the Module Installation pane appears.

8. **In the Module Installation pane, specify which module you want enabled or disabled. Then, click Next to continue with the setup, or Finish to continue with the IDE startup.**

   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.

   If you clicked Finish, the IDE continues with the startup and several windows appear. The registration wizard appears. Continue with Step 10 below.

   If you clicked 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 and select the Forte for Java 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.**

    - Choose "Register using the web" to register your Forte for Java 4 IDE software using the web, or to edit your existing registration information if you have changed Forte for Java 4 IDE editions.

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

      Registering your Forte for Java 4 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 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 might have downloaded the Forte for Java 4 IDE)

    If you are already registered with the Forte for Java 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 Forte for Java 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 Forte for Java 4 IDE.

If you decide to register with Forte for Java 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.
12. **Continue to Chapter 5 for instructions on validating your installation 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.

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

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

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

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

Alternatively, you can put the options in the *fffj-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` *jdk-home-dir*	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` *additional-classpath*	Prepends the specified class path onto the IDE's class path.
`-cp:a` *additional-classpath*	Appends the specified class path to the IDE's class path.
`-ui` *UI_class-name*	Selects a given class as the IDE's look and feel.
`-fontsize` *size*	Sets the font size, expressed in points, in the IDE's user interface.
`-single`	Launches the IDE from *ffj-install-dir* instead of from your *ffj-user-dir* directory. Runs the Forte for Java 4 IDE in single-user mode. The default mode is multiuser.
`-fortecc` *fcc-path*	(Solaris only) Specifies the path to the Forte Compiler Collection to use for this session of the IDE. Overrides any default settings created in the IDE or user directory.
`-userdir` *ffj-user-dir*	Explicitly specifies the *ffj-user-dir* directory (the location where your user settings are stored). If this option is not used in Solaris or Linux operating environments, the location is *user-home-dir*`/ffjuser40ee`. If this option is not used on a Microsoft Windows system, the user is prompted at the initial startup of the IDE for the *ffj-user-dir* 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
`-J`*jvm-flags*	Passes specified flags directly to the JVM.
`-J-Xverify:none`	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.)
`-J-Xms24m`	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.

CHAPTER 5

Validating Your Forte for Java 4 Installation

This chapter contains information on how to validate your installation of the Forte for Java 4, Enterprise Edition. Instructions are provided to help you through the creation of a simple `HelloWorld` web application using the J2EE Reference Implementation 1.3.1.

Note – The following instructions assume you have already installed the J2EE Reference Implementation 1.3.1 during the IDE installation.

Starting the Default J2EE Reference Implementation Instance

The J2EE Reference Implementation server is configured automatically when you installed the J2EE Reference Implementation 1.3.1 during the Forte for Java 4 IDE installation. An instance of the J2EE Reference Implementation is added to the IDE's server registry. This instance is also set to be the default application server after the IDE installation.

If the J2EE Reference Implementation 1.3.1 is not active when you deploy or execute an application, it automatically starts.

The following instructions explain how to start and verify the default J2EE Reference Implementation server instance:

1. **Start the Forte for Java IDE, if you have not already done so.**

   - On Microsoft Windows systems, choose Forte for Java 4.0 EE → Forte for Java from the Start menu, or start a command window and type the following:

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

   - In a supported Solaris operating environment, type the following command from the command line:

```
$ cd ffj-install-dir/bin
$ runide.sh [ffj-ide-options]
```

2. **Verify that the `RI Home` property is set correctly.**

   a. **In the Explorer window of the IDE, click the Runtime tab and expand the nodes for Server Registry and Installed Servers.**

   b. **Right-click J2EE Reference Implementation 1.3.1 and choose Properties from the contextual menu.**

      The property sheet for J2EE Reference Implementation appears.

   c. **Verify that the RI Home property already has a value of** *ffj-install-dir*`/j2sdkee1.3.1.`

      If it does not, set the value by selecting the RI Home property and typing the correct value.

3. **Start the J2EE Reference Implementation 1.3.1 instance.**

   a. **Expand the Server Registry and Installed Server nodes from the Runtime tab of the Explorer window, if you have not already done so.**

      All the application servers that have already been installed are listed under the Installed Servers node.

   b. **Expand the J2EE Reference Implementation 1.3.1 node.**

      You can see the RI instances that have already been added to the Server Registry.

c. **Right-click RI Instance 1 and choose Start Server from the contextual menu.**

The corresponding messages appear in the Output window. For example, in a Microsoft Windows system, you see the following:

```
J2EE server listen Port: = 1050
Redirecting the output and error streams to the following files:
<fff-install-dir>\j2sdkee1.3.1\logs\myhost\j2ee\j2ee\system.out
<fff-install-dir>\j2sdkee1.3.1\logs\myhost\j2ee\j2ee\system.err
J2EE server startup complete.
```

4. **Verify the server instance status in a web browser using `http://localhost:8000` for the URL.**

If you have correctly integrated your server, you see the J2EE 1.3.1 Default Home Page.

Note – If you receive an error message when verifying the server instance status, refer to Chapter 9 for some troubleshooting hints. If you need to modify the default port settings assigned to the J2EE Reference Implementation 1.3.1, refer to Appendix B for information.

Creating a HelloWorld J2EE Application

The following steps guide you in creating a simple test application using the J2EE Reference Implementation 1.3.1 that was installed with the IDE.

Note – The following instructions assume you have already started the default J2EE Reference Implementation instance. See "Starting the Default J2EE Reference Implementation Instance" on page 45 for more information.

---

1. **Create a new directory called `verificationApp`.**
2. **Start the Forte for Java IDE, if you have not already done so.**
   - On Microsoft Windows systems, choose Forte for Java 4.0 EE → Forte for Java from the Start menu, or start a command window and type the following:

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

- In a supported Solaris operating environment, type the following command at the command line:

```
$ cd ffj-install-dir/bin
$ runide.sh [ffj-ide-options]
```

3. **Mount the new `verificationApp` directory in the IDE by choosing File → Mount Filesystems from the main window of the IDE.**

   The New wizard appears.

   a. **Select Local Directory and click Next.**

   b. **Select the newly created directory, `verificationApp`, and click Finish.**

      A new node for `verificationApp` appears on the Filesystems tabbed pane of the Explorer window.

4. **In the Filesystems tabbed pane of the Explorer window, create a new Java package named `hello` by right-clicking the `verificationApp` node and choosing New → Java package.**

   The New wizard for a Java package appears.

5. **From the New wizard, type the name `hello` for the new Java package and click Finish.**

   A new node for the `hello` package appears on the Filesystems tabbed pane of the Explorer window.

6. **In the Explorer window, right-click the `hello` node and choose New → J2EE → Session EJB to create a new session bean named `helloTest`.**

   The New wizard for a session bean appears.

7. **Specify the bean Name as `helloTest`, use all the default settings on the New wizard, and click Finish.**

   The new `helloTest(EJB)` node appears on the Filesystems tabbed pane of the Explorer window. Nodes for `helloTest`, `helloTestBean`, and `helloTestHome` also appear.

8. **Add a business method by right-clicking the `helloTest(EJB)` node and choosing Add Business Method.**

   The Add New Business Method dialog box appears.

9. **In the Add New Business Method dialog box, name the method `sayHello`.**

   a. **Set the return type by selecting `java.lang.String` from the combo box.**

   b. **Click OK.**

10. **Edit the `sayHello` method using the Source Editor.**

    a. **In the Explorer window, expand the `helloTest(EJB)` node and expand the `Business Methods` node.**

    b. **Right-click `sayHello()`, and choose Open.**

    The Source Editor opens and displays the contents of the `helloTestBean` method.

    c. **In the Source Editor, add one line, so the method looks like this:**

```
public java.lang.String sayHello() {
   return "Hello there, world!";
}
```

11. **Choose Build → Compile from the main window of the IDE or press F9 to compile the `sayHello` method.**

    If no compilation errors were encountered, the Output window should display the message `Finished helloTestBean`.

12. **From the Filesystems tabbed pane of the Explorer window, create a new EJB Test application by right-clicking the `helloTest(EJB)` node and choosing Create New EJB Test Application.**

    The Create a New EJB Test Application dialog box appears.

13. **Accept all the default values by clicking OK.**

    An EJB module called `helloTest_EJBModule`, a web module named `helloTest_WebModule`, and an application named `helloTest_TestApp` are created and automatically mounted in the IDE.

14. **In the Filesystems tab of the Explorer window, right-click the `helloTest_TestApp` node and choose Execute.**

    A progress monitor is displayed and the IDE switches to the Running tab. The `helloTest_TestApp` is deployed and your web browser appears with the URL displayed as `http://localhost:8000/helloTest_TestApp/dispatch.jsp`.

    If the browser is not displayed automatically, open it manually and type **`http://localhost:8000/helloTest_TestApp`** for the URL.

Note – Make sure that your web browser is configured to not use proxy servers for domains beginning with `localhost.`

If the `http://localhost:8000/helloTest_TestApp/dispatch.jsp` page is displayed, the J2EE Reference Implementation server is working correctly.

You have now verified that your installation of the IDE and the J2EE Reference Implementation is working properly. At this point, you can skip the steps remaining in this chapter or continue to run the session bean's method.

15. **Run the session bean's method by clicking the Invoke button next to `hello.helloTest create` in the `http://localhost:8000/helloTest_TestApp/dispatch.jsp` page on your web browser.**

    The correct button is the first Invoke button on the page, under Invoke Methods in the hello.helloTestHome section.

    a. **In the EJB Navigation section of the next page, click `hello.helloTest[7]`.**

       The number 7 might be some other number in your web browser.

    b. **Click Invoke next to `java.lang.String sayHello`.**

       The Results of the Last Method Invocation section displays the following:

```
Hello there, world!

Method Invoked: sayHello()
Parameters:
none
```

You have completed running the session bean's method.

CHAPTER 6

Customizing Your Installation

This chapter contains information to assist you in customizing your installation of the Forte for Java 4, Enterprise Edition. It includes information about the PointBase Server 4.2 Restricted Edition and the IDE's internal UDDI Registry server.

Using Databases With the Forte for Java IDE

The PointBase Server 4.2 Restricted Edition is available for installation with the Forte for Java 4 IDE. You can use other databases with the IDE by configuring the JDBC™ enabled database drivers for those databases.

Note – The following instructions assume you have already installed the PointBase Server 4.2 Restricted Edition during the IDE installation.

Using a PointBase Database

PointBase Server 4.2 Restricted Edition is the default database that is provided with the Forte for Java 4 IDE installation. For information on using this database and database tables, see the PointBase documentation at either *ffj-install-dir*`/pointbase/server/GettingStarted.html` or *ffj-install-dir*`/pointbase/client/GettingStarted.html`.

Starting the PointBase Database Server

You have to start the PointBase database server before you can use it, whether you want to access a PointBase database from an application you developed using the IDE or you want to create your own tables or database with PointBase software.

To start the PointBase database server:

- **Choose Tools → PointBase Network Server → Start Server from the main window of the IDE.**

  Alternatively, on Microsoft Windows systems, start the PointBase server by choosing Forte for Java 4.0 EE → PointBase → Network Server → Server from the Start menu.

  The PointBase 4.2 window appears.

Stopping the PointBase Database Server

Note – The following action stops only the PointBase database server that was started by choosing Tools → PointBase Network Server → Start Server.

To stop the PointBase database server:

- **Choose Tools → PointBase Network Server → Stop Server from the main window of the IDE or choose Server → Shutdown! from the PointBase 4.2 window.**

Starting the PointBase Client Console

To start a PointBase console, do the following:

- **In a supported Solaris or Red Hat Linux environment, type:**

```
$ sh ffj-install-dir/pointbase/client/Console
```

- **On Microsoft Windows systems, start the PointBase client console by choosing Forte for Java 4.0 EE → PointBase → Console from the Start menu.**

  A dialog named "Connect to Database" appears. Click OK to continue.

Stopping the PointBase Client Console

To stop the client console, terminate the window from which it is running.

Customizing Your PointBase Database

The J2EE Reference Implementation 1.3.1 is preconfigured to use the PointBase Server 4.2 Restricted Edition server included with the IDE. Starting the J2EE Reference Implementation 1.3.1 server does not start the PointBase server. You must start the PointBase Server 4.2 Restricted Edition server separately, as previously instructed in this chapter.

If, however, you want to create a different PointBase database for your tables, you need to use the `$J2EE_HOME/bin/j2eeadmin` tool to update the `$J2EE_HOME/config/resource.properties` file. The `$J2EE_HOME` is set to the *fffj-install-dir*`/j2sdkee1.3.1` directory.

The `j2eeadmin` syntax to create a different PointBase database is as follows:

```
j2eeadmin -addJdbcDatasource jndi_name url
```

For example, in a Solaris environment, you might type the following at the command line:

```
$ $J2EE_HOME/bin/j2eeadmin -addJdbcDatasource jdbc/DB1
jdbc:pointbase:server://localhost/yourdatabase
```

Alternatively, you can manually edit the `$J2EE_HOME/config/resource.properties` file and modify the `jdbc.resources` variable, as follows:

```
jdbc.DataSource.0.url=jdbc:pointbase:server://localhost/your-
database
```

Using Other JDBC Enabled Databases

The following information applies to database drivers other than the driver for the PointBase Server 4.2 Restricted Edition database.

You must place database driver files in the Forte for Java `lib/ext` directory before you start the Forte for Java 4 IDE. If you do not do this, the dbschema wizard does not enable you to select the proper database driver when you create a new schema. You cannot mount the driver file in the IDE's Explorer, nor can you simply place the driver file in the `CLASSPATH` environment variable. You must copy the driver file into the `lib/ext` folder.

The same database driver must also be added to the `$J2EE_HOME/lib/system` directory so that the application server is aware of the new database driver. Read the information contained in *ffj-install-dir*`/j2sdkee1.3.1/doc/release/ConfigGuide.html#12442` for more information on required steps for adding more database drivers to the J2EE Reference Implementation 1.3.1 application server.

For more information on database configuration and adding new database drivers, see `http://www.sun.com/forte/ffj/resources/articles/configdb.html`.

Using the IDE's Internal UDDI Registry Server

A single-user, internal UDDI registry is bundled with the IDE as a convenience for end-to-end testing of your development process. This registry runs in a dedicated Tomcat server, which the IDE starts and stops automatically when you start and stop the registry server.

Note – The internal UDDI registry is configured with a single user. The name is `testuser` and the password is `testuser`. Set this name and password as the default for the internal registry.

To start the internal UDDI registry server:

1. **Expand the UDDI Server Registry node in the Explorer's Runtime tabbed pane.**

   You should see the Internal UDDI Registry node.

2. **Right-click the Internal UDDI Registry node and choose Start Server.**

   The IDE's Output window displays server startup messages. You might also see messages stating that the IDE is stopping a previous Tomcat server process.

Note – If the internal UDDI registry server is already running, the Start Server menu item is inactive.

To stop the internal UDDI registry server:

1. **Expand the UDDI Server Registry node in the Explorer Runtime tabbed pane.**

   You should see the Internal UDDI Registry node.

2. **Right-click the Internal UDDI Registry node and choose Stop Server.**

   Server stop messages are displayed.

Note – If the internal UDDI registry server is not running, the Stop Server menu item is inactive.

CHAPTER 7

Using Other Application Servers With the Forte for Java 4 IDE

Once you have successfully installed the IDE and validated the IDE installation by creating a simple J2EE application (see Chapter 5 for more information), you can use other application servers with the IDE.

This chapter contains information about using the BEA WebLogic Server 6.1 as the default application server for applications you develop with the Forte for Java 4 IDE.

Note – You must first download the WebLogic Server Plug-in module from the Update Center before you can proceed with the rest of this chapter. See "Updating Modules With the Update Center" on page 61 for information on how to download Forte for Java 4 modules. In the Update Center wizard, expand the Enterprise Edition Modules node to locate the WebLogic Server Plug-in module.

Setting Up the WebLogic Environment

Note – WebLogic Server 6.1 requires version 1.3.1 of the Java runtime environment (JRE). You must run the IDE with JRE 1.3.1 if you intend to deploy applications to the WebLogic Server 6.1. Do not run the IDE and WebLogic Server 6.1 with the J2SE, v. 1.4 platform or the JRE, v. 1.4.

The WebLogic Server 6.1 must be running before you can deploy an application to it. However, before you start the application server, you must ensure that the WebLogic environment is set up correctly.

Note – If you deploy a J2EE application client to WebLogic Server 6.1, WebLogic must be able to download its XML document definitions from the WebLogic web site. If your connection to the web requires a proxy server, make sure that you specify this setting in the IDE before deploying an application to the WebLogic server. To set the proxy server, choose Tools → Setup Wizard and specify your proxy and web browser settings in the General Forte for Java Settings pane of that wizard.

Setting Up the WebLogic Environment in a Solaris Operating Environment

Follow these steps to set up the WebLogic environment in your Solaris operating environment:

1. **Shut down the IDE.**
2. **From a command window, ensure that you have a Bourne shell session.**

   If you do not yet have a Bourne shell session, type the following command:

```
% sh
$
```

3. **Run the WebLogic environment setup script.**

   Type the following at the command prompt to run the `setEnv.sh` script:

```
$ . WebLogicHomeDirectory/config/Domain/setEnv.sh
```

   For example, if your WebLogic home directory is `/bea/wlserver6.1` and your domain is `mydomain`, you would type the following command:

```
$ . /bea/wlserver6.1/config/mydomain/setEnv.sh
```

4. **Start the Forte for Java 4 IDE.**

   In the same terminal window where the WebLogic environment was just set up, type the following:

```
$ fff-install-dir/bin/runide.sh
```

Setting Up the WebLogic Environment on a Microsoft Windows System

If you installed WebLogic as a Microsoft Windows service, the server starts whenever you restart Microsoft Windows. You do not need to start explicitly with the script. If you did not install WebLogic as a Microsoft Windows service, follow these instructions:

1. **Shut down the IDE.**
2. **Run the WebLogic environment setup script.**

   At a command prompt, type the following:

   ```
   C:\>WebLogicHomePath\config\Domain/setEnv.cmd
   ```

   For example, if your WebLogic home is `c:\bea\wlserver6.1` and your domain is `mydomain`, you would type the following command:

   ```
   C:\> \bea\wlserver6.1\config\mydomain\setEnv.cmd
   ```

3. **Start the Forte for Java 4 IDE.**

   In the same command window where the WebLogic environment was just set up, type the following:

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

Configuring the BEA WebLogic Server 6.1 as the Default Application Server

You must install and start the BEA WebLogic Server 6.1 before you can use it with the IDE.

Note – The BEA WebLogic Server 6.1 SP2 has been certified with this release of the Forte for Java 4 IDE and is certified only to run with the Java 2 SDK, v. 1.3.1 software.

Note – There is a known problem in deploying web services developed with the Forte for Java 4 IDE to the BEA WebLogic 6.1 Server. The fix requires a patch to the WebLogic server. You will not be able to deploy web services from the IDE to WebLogic 6.1 without the patch. WebLogic customers with BEA support contracts need to contact BEA Customer Support and request the patch for issue CR064391.

Follow these steps to make the BEA WebLogic 6.1 Server the default application server for applications you create and deploy in the IDE.

1. **If you have not already done so, start the IDE.**

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

2. **In the Explorer window, select the Runtime tab and expand the Server Registry/Installed Servers node.**

   You should see the WebLogic Server 6.1 node.

3. **Right-click the WebLogic Server 6.1 node and choose Properties.**

   The property sheet for the WebLogic server appears.

4. **Set the value for the WebLogic Home property.**

   a. **Select the WebLogic Home property.**

   b. **Type** *weblogic-install-dir*`/wlserver6.1`**. and close the property sheet.**

5. **Add a WebLogic server instance by right-clicking the WebLogic Server 6.1 node and choosing Add Server Instance.**

6. **Set the password value in the property sheet.**

   a. **Right-click the WebLogic server instance you just created and choose Properties.**

      The property sheet for the instance appears.

   b. **Select the Password property and type the password you specified during the WebLogic server installation as the property's value.**

   c. **Close the property sheet.**

7. **Right-click the WebLogic Server Instance 1 and choose Set As Default Application Server.**

   The WebLogic server is now the default application server used by the IDE.

CHAPTER 8

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 4, Enterprise 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 Forte for Java 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 Forte for Java Update Center login name and password.**

   See Step 10 in "Setting Up Your Forte for Java 4 IDE" on page 37 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 and 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 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 choosing Help → Web Resources from the main window of the IDE.

CHAPTER 9

Troubleshooting

This chapter provides some troubleshooting hints to help you during the installation, startup, configuration, and use of the Forte for Java 4 IDE.

Using the `solaris_patch_installer`

TABLE 9-1 describes some errors you might encounter during installation of Solaris patches using the `solaris_patch_installer` script.

TABLE 9-1 `solaris_patch_installer` Errors

Problem	Solution
The `solaris_patch_installer` aborted while attempting to apply one of the required Solaris patches on your system.	1. Write down the patchID of the last patch that the `solaris_patch_installer` 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 `patchadd` utility. (If you are unfamiliar with or unsure about installing Solaris packages or the J2SE, v. 1.4.0 platform on your Solaris environment, contact your Solaris system administrator for assistance.) 4. Run the `solaris_patch_installer` again to ensure you have all the required Solaris 8 patches on your system.

TABLE 9-1 `solaris_patch_installer` Errors *(Continued)*

Problem	Solution

Receipt of an error message similar to the following, after running the `solaris_patch_installer` on a newly installed Solaris 8 (update 7) environment:
`# ./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`
	Run the `solaris_patch_installer` script a second time. If you continue to have problems, contact your Solaris system administrator.

Installing the Forte for Java 4 IDE

TABLE 9-2 describes some errors you might encounter during the Forte for Java 4 IDE installation.

TABLE 9-2 Forte for Java 4 IDE Installation Errors

Problem	Solution
Receipt of the following error message while installing the Forte for Java 4 IDE: `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`	Start the installer with the `-is:tempdir` 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: `$ ffj_ee_solsparc_en.bin -is:tempdir` *temporary-directory*

TABLE 9-2 Forte for Java 4 IDE Installation Errors *(Continued)*

Problem	Solution
The Forte for Java 4 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 may be symbolically linked to another filesystem whose large amount of disk space is not recognized. For example, in a Solaris environment, `/export/home` has 2 GB of space and `/` has 100 MB. The `/opt` directory is symbolically linked to `/export/home`. If you specified `/opt/forte4j` as the IDE installation directory, the Forte for Java 4 installer does not recognize the symbolic link to `/export/home`, which has 2 GB of available disk space. The installer only recognizes the `/` directory, which is the target directory for `/opt` and only has 100 MB. To correct the problem, specify the IDE's installer to directly use the filesystem with the larger available disk space. For the above example, specify the `/export/home` as the installation directory.
Receipt of the following error message while installing the Forte for Java 4 IDE: `Error: Could not find JVM`	Start the installer with the `-is:javahome` 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: $ `ffj_ee_solsparc_en.bin -is:javahome` *javahome*
(Solaris or Linux environments only) The Forte for Java 4 installer looks like it is hung, after it was started. No messages are displayed.	You may not have set the `DISPLAY` environment variable correctly. If you are installing on your local system, the `DISPLAY` environment variable should be set to `:0.0`. If you are using a superuser (root) account or doing a remote installation, set your `DISPLAY` environment variable to your local system. For example, to set the `DISPLAY` 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: `setenv DISPLAY` *your-local-host*`:0.0`. Run the installer again from the same command window.
The Forte for Java 4 IDE installer exits without installing the product. No messages are displayed.	These are the possible causes and solutions: • The file you have downloaded from the Forte for Java 4 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 *installer.*`sp` file. Check the file and correct any incorrect command-line parameter setting. Run the IDE installer again.
The `-is:tempdir` command-line parameter is not working.	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: `ffj_ee_solsparc_en.bin -is:tempdir` *temporary-directory*

Starting Up the Forte for Java 4 IDE

TABLE 9-3 describes some errors you might receive during startup and configuration of the newly installed Forte for Java 4 IDE software.

TABLE 9-3 Forte for Java 4 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: 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 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 v. 1.4.0 platform.

Forte for Java 4 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:
`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.`
	Check the Java environment variables already set prior to starting the IDE and unset them.
	The values of the `$JAVA_PATH` and `$JDK_HOME` 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 `-jdkhome` command-line option when starting the IDE.

TABLE 9-3 Forte for Java 4 IDE Startup and Configuration Errors *(Continued)*

Problem	Solution
The user directory is created in the wrong location in a Microsoft Windows system.	If you have previously installed any edition of the Forte for Java 4 IDE in a Windows environment, the location of the user directory is recorded in the Microsoft Windows Registry under `HKEY_CURRENT_USER/Software/Sun Microsystems, Inc./Forte for Java/EE/4.0`. This value is not deleted when you uninstall the Forte for Java 4 IDE. Therefore, when you install another version of the Forte for Java 4 IDE, the user directory specified in a previous Forte for Java 4 IDE installation is reused. If you want to use a different location for the user directory, do the following: 1. Uninstall the Forte for Java 4 IDE. 2. In a command window, type `regedit` to start the Microsoft Windows Registry editor. 3. From the Registry editor, expand the `HKEY_CURRENT_USER registry` and the keys for `Software/Sun Microsystems, Inc./Forte for Java/EE/4.0` 4. Right-click the `UserDir` value and choose Delete from the contextual menu. 5. Install the Forte for Java 4 IDE again. 6. After installation, start the Forte for Java 4 IDE and when you are prompted, specify a new location for the user directory.

Running Web Services

TABLE 9-4 describes some error messages you might get when running a web service using any of the application servers supported by the IDE.

TABLE 9-4 Errors When Running a Web Service With Any Application Server

Problem	Solution
Receipt of the following exception: `[SOAPException: faultCode=SOAP-ENV: Client; msg=Connection shutdown: JVM_recv in socket input stream read; targetException: java.net.SocketException: Connection shutdown: JVM_recv in socket input stream read]`	The Web Context property of the web module in the J2EE application does not match the context root specified in the SOAP RPC URL property of the web service. To obtain the Web Context property of the web module: 1. Expand the J2EE application to which the web service was added. 2. Right-click the web module of the web service (this is the file whose name ends in `_War`) and choose Properties. 3. The Web Context property is the last property displayed in the Properties window. To obtain the context of the SOAP RPC URL property of the web service: 1. Right-click the web service node and choose Properties. 2. The SOAP RPC URL property displays a value that is similar to the following: `http://localhost:8000/MyService/servlet/rpcrouter` In this case, the context root is `MyService` and this should also be the value of the Web Context property of the web module in the J2EE application.
Receipt of the following exception: `[SOAPException: faultCode=SOAP-ENV:Client; msg=Error opening socket: Connection refused: connect; targetException= java.lang.IllegalArgumentException: Error opening socket: Connection refused: connect]`	Changes were made to the web service and you did not refresh the web service client that was making the call to the web service. To refresh the web service client when a change has been made to the web service that it is calling: 1. Right-click the web service client node to display its contextual menu. 2. Choose Refetch WSDL. This regenerates the client proxy to reflect the changes made to the web service.

Web Services Using UDDI

TABLE 9-5 describes some error messages you might get when running a web service using UDDI.

TABLE 9-5 Errors When Running a Web Service Using UDDI

Problem	Solution
Receipt of an empty web page when viewing `.wsdl` files.	Versions of the Netscape web browser prior to 6.0 do not display the `.wsdl` file. Use a later version of the Netscape web browser.
Receipt of the following exception when searching for anything in a UDDI registry using the New Client wizard: `IllegalArgumentException`	If you intend to use UDDI, you need to set the User Proxy Server name and port information when you first run the Forte for Java 4 IDE. You can use either of the following to set the User Proxy Server information: • When you start the IDE after installation, specify the User Proxy Server name and port from the second dialog box. • Choose Tools → Setup Wizard from the main window of the IDE and provide the User Proxy Server name and port. You must restart the IDE for the values to take effect.
Receipt of the following exception in the registry server Tomcat output window when inquiring or publishing to the internal UDDI server: `[WARN] registry_server - - org.xmldb.api.base.XMLDBException while connecting: org.apache.xnode.XNodeException: aborting connection attempt.`	A possible cause is that a previous Xindice server instance was not gracefully terminated: 1. Terminate the corresponding Java processes associated with that Xindice server instance. 2. Restart the IDE. Always terminate the internal UDDI registry server using the following steps: 1. Select the Runtime tab of the Explorer. 2. Expand the UDDI Server Registry node. 3. Right-click the Internal UDDI Registry and choose Stop Server from the contextual menu.

Using WebLogic 6.1

TABLE 9-6 describes some error messages you might get when using WebLogic Server 6.1.

TABLE 9-6 Errors When Using WebLogic Server 6.1

Problem	Solution
Inability to deploy web services from the Forte for Java 4 IDE to the BEA WebLogic Server 6.1.	There is a known problem in deploying web services developed with the Forte for Java 4 IDE to the BEA WebLogic Server 6.1. The fix requires a patch to the server. WebLogic customers with BEA support contracts need to contact BEA Customer Support and request the patch for issue CR06439.
WebLogic Server 6.1 is unable to download its XML document definitions from the BEA web site.	If you deploy a J2EE application client to WebLogic Server 6.1, WebLogic must be able to download its XML document definitions from the WebLogic web site. If your connection to the web requires a proxy server, make sure that you specify this setting in the IDE before deploying an application to the WebLogic server. To set the proxy server, choose Tools → Setup Wizard and specify your proxy and web browser settings in the General Forte for Java Settings pane of that wizard.

Using J2EE Reference Implementation 1.3.1

TABLE 9-7 describes some error messages you might get when using J2EE Reference Implementation 1.3.1.

TABLE 9-7 Errors When Using J2EE Reference Implementation 1.3.1

Problem	Solution
Receipt of the following error on your browser after deploying the HelloWorld J2EE application you created in "Creating a HelloWorld J2EE Application" on page 47: `ERROR: The requested URL could not be retrieved. While trying to retrieve the URL: http://localhost:8000/helloTest_TestApp/dispatch.jsp the following error was encountered: Connection Failed.`	If your system is behind a firewall, make sure that your browser is configured to not use proxy servers for domains beginning with `localhost`.

Receipt of the following error message:
`org.omg.CORBA.INTERNAL: minor code: 1398079697 completed: No`
`...`
`java.lang.RuntimeException: Unable to create ORB. Possible causes include TCP/IP ports in use by another process`
`...`
`Error executing J2EE server...`
	This error occurs when another process is already using the 1050 listen port. You can either shut down the other process or change the port number assigned to J2EE Reference Implementation 1.3.1 to something other than 1050, for example, 11050. This error can also occur if the 1060 listen port is in use, even if the 1050 port is not in use. Do the following to correct the problem:
	1. Determine whether the 1050 port is in use, the 1060 port is in use, or both are in use.
	2. Change whichever is in use. To change the 1050 port assignment, you must modify the `$J2EE_HOME\config\orb.properties` file.To change the 1060 port assignment, use a text editor to modify the `$J2EE_HOME\setenv.bat` (for Microsoft Windows systems), or `$J2EE_HOME/setenv.sh` file (for Solaris or Red Hat Linux environments).

TABLE 9-7 Errors When Using J2EE Reference Implementation 1.3.1 *(Continued)*

Problem	Solution

Receipt of an error message similar to the following:
`Starting web service at port:8000`
`Starting secure web service at port: 7000`
`J2EE SDK/1.3.1`
`LifecycleException: null.open: java.net.BindException: Address in use: JVM_Bind`
`...`
`Error executing J2EE server...`
	This error occurs if either the 7000 or 8000 web server port is in use. Set the `http.port` or `https.port` properties in the `$J2EE_HOME/config/web.properties` file to a different web server port.

Receipt of an error message similar to the following:
`Starting web service at port:8000`
`Starting secure web service at port:7000`
`J2EE SDK/1.3.1`
`Starting web service at port:9191`
`J2EE SDK/1.3.1 LifecycleException: null.open: java.net.BindException: Address in use: JVM_Bind`
`...`
`Error executing J2EE server...`
	This error occurs if the 9191 EJB server port is in use. Modify the `$J2EE_HOME/config/ejb.properties` file to use a different EJB server port.

Receipt of `ClassNotFoundException` when deploying an application using J2EE Reference Implementation 1.3.1.	This problem might occur if you installed the IDE to run with the Java 2 SDK, v. 1.3.1, and you started the IDE with the `-jdkhome` switch option set to a Java 2 SDK, v. 1.4.0 installation. Your application might compile, but you could receive the `ClassNotFoundException` at deployment time if you used a Java API that is specific only to Java 2 SDK, v. 1.4.0. Note that the J2EE Reference Implementation 1.3.1 server is set to use the Java 2 SDK specified during the IDE installation and not the Java 2 SDK specified via the `-jdkhome` switch option. Do one of the following to correct the problem: • Edit the `JAVA_HOME` setting in the J2EE Reference Implementation startup file to use the desired version of the Java 2 SDK. The setting is found in `$J2EE_HOME/bin/userconfig.sh` in Solaris and Linux environments or in the `$J2EE_HOME/bin/userconfig.bat` file on Microsoft Windows systems. • Use a comparable Java API from the Java 2 SDK, v. 1.3.1 platform.

TABLE 9-7 Errors When Using J2EE Reference Implementation 1.3.1 *(Continued)*

Problem	Solution
Receipt of the following exception: `java.lang.RuntimeException: Could not initialize j2ee server`	This error occurs if another application has already taken the port number that the J2EE Reference Implementation server is trying to use. You can reboot the J2EE Reference Implementation server to get the port number before the other application does, or troubleshoot the error by following these steps: 1. Open your `$J2EE_HOME\config\orb.properties` file and make a note of the port number. 2. Use the `netstat` command to see if the number is in use. For example, in a Solaris operating environment, type something similar to the following in a command window: `netstat -a \| grep` *port-number* 3. If the number is in use by another process, you need to change the port being used by the J2EE Reference Implementation server or by the other process. To find a free port, try running the `netstat` command again and remove the last couple of digits of the *port-number*. For example, in a Solaris environment, you might type: `netstat -a \| grep 104` This command lists all of the 104 ports in use. If there is a number missing, change the `$J2EE_HOME\config\orb.properties` file to the number missing from the list.

APPENDIX **A**

Solaris Patch Identifications and Descriptions

TABLE A-1 provides the 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	`/usr/lib/libdevinfo.so.1`
112334-01	`/usr/include/sys/archsystem.h`
111310-01	`/usr/lib/libdhcpagent.so.1`
108528-13	SIGEMT
108652-51	Xserver
108921-13	CDE 1.4 dtwm
108940-40	Motif 2.1
108773-12	X input methods
109607-01	`/usr/include/iso/stdlib_iso.h`
112003-03	Fontset
108989-02	Accounting
108827-17	Threads

APPENDIX **B**

Port Usage in the Forte for Java 4 IDE

TABLE B-1 provides a listing of the ports used in the Forte for Java 4, Enterprise Edition IDE. It includes ports used by Forte for Java modules, third-party components, and application servers available for use with the IDE. Also included is information on whether the default port assignment can be modified and how to make the modification.

TABLE B-1 Port Usage in Forte for Java 4, Enterprise Edition IDE

Names of Module, Application Server, or Third-Party Components	Default Port Number Assigned	Description	Information on Modifying Default Port Assignment
NetBeans Open File Module	7318	Open file server	The default port assignment can be modified using the properties editor for the Open File Server: 1. Choose Tools → Options menu from the main window of the IDE. 2. From the Options window, expand the IDE Configuration node. 3. Expand the Server and External Tool Settings node, right-click Open File Server, and choose Properties from the contextual menu. 4. Click the current value for Port property and type a different port number.
NetBeans Internal HTTP Server Module	8082	Embedded server HTTP	The default port assignment is automatically changed if a conflict is detected.
External Editor	3219		The default port assignment can be modified through the external editor's options pane.

TABLE B-1 Port Usage in Forte for Java 4, Enterprise Edition IDE *(Continued)*

Names of Module, Application Server, or Third-Party Components	Default Port Number Assigned	Description	Information on Modifying Default Port Assignment
PointBase Restricted Edition	9092		On Microsoft Windows systems, the default port assignment can be modified in the PointBase startup script, `server.bat`, under the `$FORTE4J_HOME/pointbase/server` directory. Use the following steps to modify the script: 1. Go to the `$FORTE4J_HOME/pointbase/server` directory and create a copy of the `server.bat` file. 2. Name the new file `server_`*newportnum*`.bat.` 3. Change the port number information in the new file to *newportnum*. 4. Run the `server_`*newportnum*`.bat` script in a command window. In Solaris and Red Hat Linux environments, start the PointBase server from the `$FORTE4J_HOME/pointbase/server` directory by typing the following at the command line: `Server /port:`*newportnum* `/win &`

TABLE B-1 Port Usage in Forte for Java 4, Enterprise Edition IDE *(Continued)*

Names of Module, Application Server, or Third-Party Components	Default Port Number Assigned	Description	Information on Modifying Default Port Assignment
Tomcat 4.0.1	8015	Server administration	The default port number can be modified using the properties editor for the internal Tomcat 4.0.1 server: 1. On the Runtime tab of the Explorer, expand the Server Registry node and the Installed Servers node. 2. Expand the Tomcat 4.0 node, right-click the Internal node, and choose Properties from the contextual menu. 3. Click the current value for the Server Port property and type the desired port number.
	8081	Server HTTP	The default port number can be modified using the properties editor for the `Host` to be edited: 1. On the Runtime tab of the Explorer, expand the Server Registry node and the Installed Servers node. 2. Expand the Tomcat 4.0 node and expand the relevant installation node. 3. Right-click the node representing the `Host` to be edited, and choose Properties from the contextual menu. 4. Click the value for the HTTP Connector property field and type the desired port number.
	8443	Redirecting	You can modify the Tomcat configuration file, *ffj-install-dir*`/tomcat401/conf/server.xml`. Be aware that you edit the `server.xml` file at your own risk. Be sure to create a backup version of your working `server.html` file before beginning to edit by hand. 1. On the Runtime tab of the Explorer, expand the Tomcat 4.0 node under the Installed Servers node. 2. Right-click the node for the installation of Tomcat that you want to edit. From the contextual menu, choose Configure (`server.xml`). The `server.xml` file appears in the Source Editor. You can now edit `server.xml` to modify the default port number.
	11555	IDE debugger connection	The default port number can be modified using the properties editor for the internal Tomcat 4.0.1 server: 1. On the Runtime tab of the Explorer, expand the Server Registry node, and then expand the Installed Servers node. 2. Expand the Tomcat 4.0 node, right-click the Internal node and choose Properties from the contextual menu. 3. Select the Debugger tab. 4. Click the current value for the Debugger Port property and type the desired port number.

TABLE B-1 Port Usage in Forte for Java 4, Enterprise Edition IDE *(Continued)*

Names of Module, Application Server, or Third-Party Components	Default Port Number Assigned	Description	Information on Modifying Default Port Assignment
J2EE Reference Implementation 1.3.1 (bundled with Forte for Java 4, Enterprise Edition)	1050	ORB/IIOP	Use a source editor of your choice to modify the `orb.properties` file found in the `$J2EE_HOME/config` directory. Modify the default port number with another port number that is unused. The property is listed in the file as `orb.properties:port=1050`.
	1060	ORB Listen-Socket	Use a source editor of your choice to modify either the `setenv.bat` file (for Microsoft Windows systems) found in the `$J2EE_HOME\bin` directory or the `setenv.sh` file (for Solaris and Red Hat Linux environments) found in the `$J2EE_HOME/bin` directory. Modify the last four digits on the line that defines the `LISTEN_OPTIONS` environment variable.
	8000	Web server (HTTP)	Use a source editor of your choice to modify the `web.properties` file found in the `$J2EE_HOME/config` directory. The property is listed as in the file as `web.properties:http.port=8000`.
	7000	Secure web server (HTTPS)	Use a source editor of your choice to modify the `web.properties` file found in the `$J2EE_HOME/config` directory. The property is listed in the file as `web.properties:https.port=7000`.
	9191	EJB service	Use a source editor of your choice to modify the `ejb.properties` file found in the `$J2EE_HOME/config` directory. The property is listed as `ejb.properties:http.port=9191`.

TABLE B-1 Port Usage in Forte for Java 4, Enterprise Edition IDE *(Continued)*

Names of Module, Application Server, or Third-Party Components	Default Port Number Assigned	Description	Information on Modifying Default Port Assignment
Java Web Services Developer Pack UDDI Server (bundled with Forte for Java 4, Enterprise Edition)	8095	Tomcat server port for registry server	The default port assignment can be modified in the *ffj-install-dir*/`jwsdp/conf/server.xml`: 1. Open the `server.xml` file in a text editor. 2. Replace the port number. 3. Restart the IDE.
	8089	Tomcat HTTP port for registry server	The default port assignment can be modified in the *ffj-install-dir*/`jwsdp/conf/server.xml`: 1. Open the `server.xml` file in a text editor. 2. Replace the port number. 3. Restart the IDE.
	4080	Xinidce HTTP	The default port assignment can be modified in the *ffj-install-dir*/`jwsdp/tools/xindice/config/system.xml`: 1. Open the `system.xml` file in a text editor. 2. Replace the port number. 3. Restart the IDE.
WebLogic 6.1	7001	Server HTTP	The default port assignment can be modified during the installation of the WebLogic 6.1 server.
	7002	Server HTTPS	The default port assignment can be modified during the installation of the WebLogic 6.1 server.