APPENDIX D

Installing the JDK and JDK Documentation

To write and execute Java programs, you will need to download and install the Java Development Kit (JDK). For this book, you need the JDK Standard Edition, which is available for the Windows, Linux, and Solaris operating systems. It can be downloaded from this Web site:

```
www.oracle.com/technetwork/java/javase/downloads/index.html
```

NOTE: If you would rather not type this entire address into your browser, you can also go to `www.oracle.com`, click *Downloads*, and then click *Java for Developers*.

On the Web page click *Download JDK*. On the next page, click the *Download* button, select your operating system from the *Platform* drop-down list, and then click *Continue*.

On the next page, you will see the name of the executable file that you need to download. Click the name of the file to download it to your system.

Once the file is downloaded, execute it to start the installation. The installation program installs two items to your system: the JDK and the Java Runtime Environment (JRE). First the JDK is installed. Click the *Next* button on each screen to accept the default selections, and be sure to take note of the location on your system where the JDK has been installed. Depending on the version of the JDK that you are installing, the location will be something similar to:

```
C:\Program Files\Java\jdk1.7.0
```

Once the JDK is installed, the installation process for the JRE will begin. Click the *Next* button on each screen to accept the default selections, and be sure to take note of the location on your system where the JRE has been installed. Depending on the version that you are installing, the location will be something similar to:

```
C:\Program Files\Java\jre7
```

Setting the `Path` Environment Variable

If you plan to use the JDK command-line utilities to compile and run your programs, you will probably want to edit the contents of the `Path` variable on your system. This will allow your system to find the JDK utilities from any folder when you run them at the command-line.

The `Path` variable contains a list of directory paths, separated by semicolons. For example, the `Path` variable might contain the following string:

```
C:\Games;C:\Temp;C:\Program Files\MyPrograms
```

When you type the name of an executable file at the command line and press Enter, the system will first look in the current folder for that file. If it cannot find the file there, it begins looking in the folders that are listed in the `Path` variable. (On an actual system, the `Path` variable l contains many more paths than shown in this example, but this gives you an idea of how it works.)

We mentioned earlier that during the JDK installation process, you should take note of the location on your system where the JDK is installed. Inside that folder, there is another folder named `bin` that contains the JDK utility programs. The path to that folder will be something like:

```
C:\Program Files\Java\jdk1.7.0\bin
```

NOTE: Keep in mind that the actual path on your system might differ slightly from this example, depending on the version of the JDK that you have installed.

To make it easy to execute the JDK utilities from the Windows command line, you should add this path to the `Path` variable. The procedure for adding this path to the `Path` variable depends on the version of Windows you are using. The steps required for Windows 7, Vista, and Windows XP follow.

Windows 7

Click the **Start button** and then right-click **Computer**. On the pop-up menu select **Properties**. In the window that appears next, click **Advanced system settings**. This displays the System Properties window. Click the **Environment Variables...** button. In the System Variables list, scroll to the `Path` variable. Select the `Path` variable and click the **Edit** button. Add a semicolon to the end of the existing contents and then add the path of the JDK utility programs. Click the **OK** buttons until all the dialog boxes are closed and exit the control panel.

Windows Vista

Click the **Start** button, **Control Panel**, click **System Maintenance** in the Control Panel, and then click the **System** icon. (If you are running Windows Vista in Classic View, click the Start button, Control Panel, and then double-click the System icon.) Click **Advanced System Settings** in the Tasks pane on the left and then click the **Environment Variables**… button. In the System Variables list, scroll to the `Path` variable. Select the `Path` variable and click the **Edit** button. Add a semicolon to the end of the existing contents and then add the path of the JDK utility programs. Click the **OK** buttons until all the dialog boxes are closed, and exit the control panel.

Windows XP

Click the **Start** button, **Control Panel**, and then double-click the **System** icon. (If you are running Windows XP in Category View, click **Performance and Maintenance** in the Control Panel and then click the **System** icon.) Next, click the **Advanced** Tab and then click the **Environment Variables** button. In the System Variables list, scroll to the `Path` variable. Select the `Path` variable and click the **Edit** button. Add a semicolon to the end of the existing contents and then add the path of the JDK utility programs. Click the **OK** buttons until all the dialog boxes are closed, and exit the control panel.

Installing the JDK Documentation

To download the JDK documentation, go to the following site:

```
www.oracle.com/technetwork/java/javase/downloads/index.html
```

NOTE: If you'd rather not type this entire address into your browser, you can also go to `www.oracle.com`, click *Downloads*, and then click *Java for Developers*.

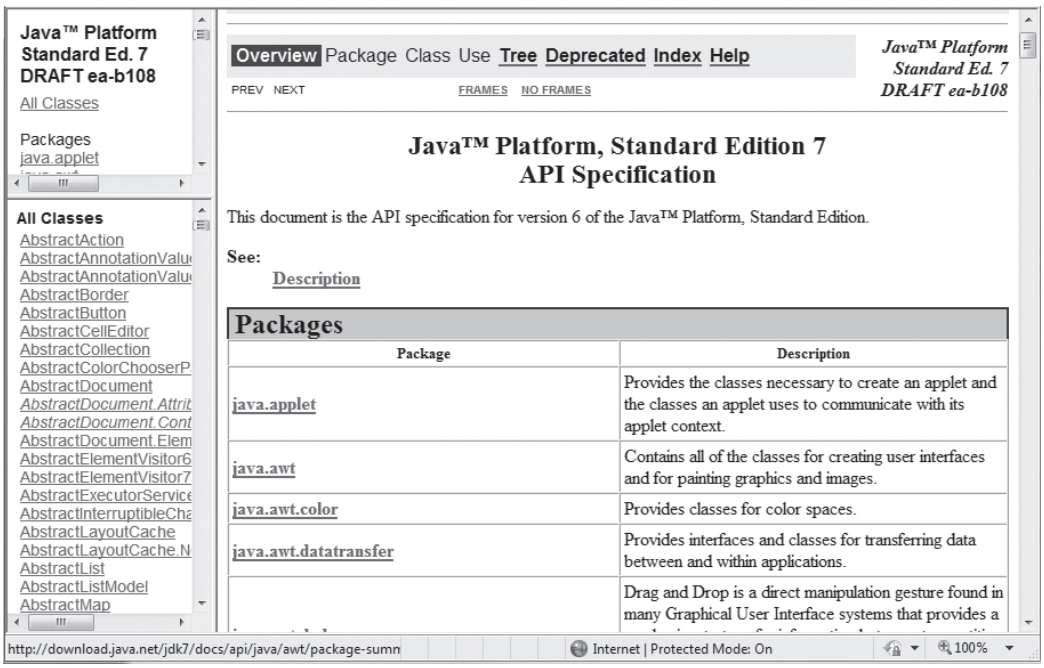
On this page, scroll down until you see *Additional Resources*. Under that, you will see a section for the Java SE documentation. Click *Download Zip*. On the next page, select the language you prefer, accept the license agreement, and click *Continue*. On the next page, you will see the name of the .zip file that you need to download. Click the name of the file to download it to your system.

The file that you downloaded contains the JDK documentation. You can decompress the file with any utility that supports the .zip file format. When you decompress the file, it creates a *docs* folder, which contains several other folders.

Although the documentation contains an abundant amount of information on the Java language and utilities, you will find yourself using the API documentation regularly. The API documentation contains information on all the classes in the Java Application Program Interface (API). The following steps guide you through the process of viewing the API documentation for the `Scanner` class.

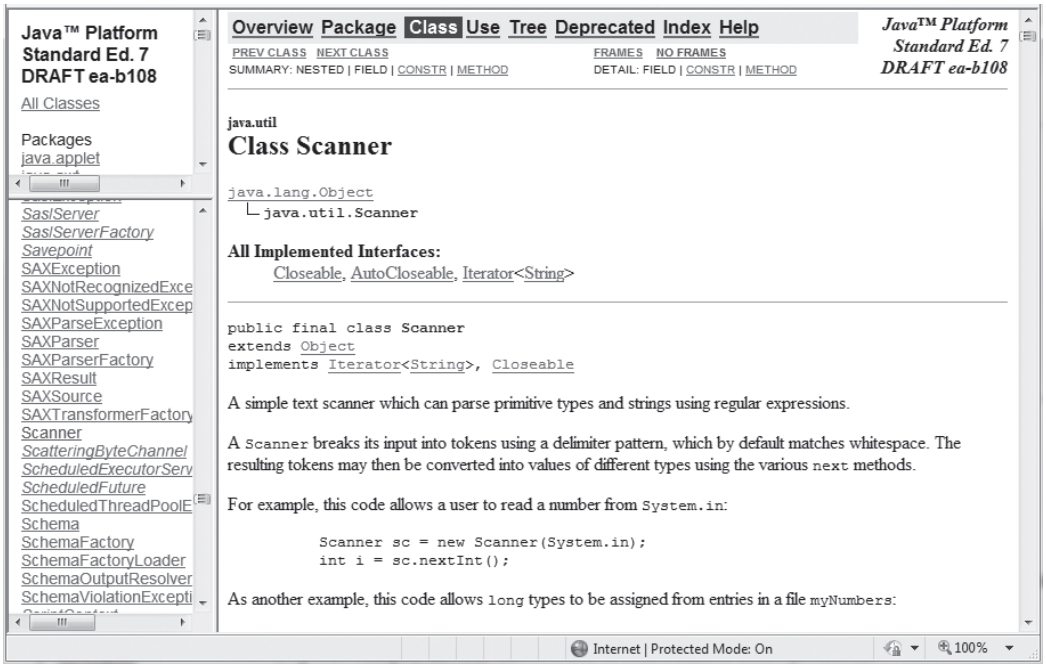
Step 1: Inside the *docs* folder you will find another folder named *api*. Inside the *api* folder you will find a file named *index.html*. Double-click this file to open it in your Web browser. You will see a screen similar to the one shown in Figure D-1.

Figure D-1 API Documentation screen



Step 2: In the leftmost pane you will see an alphabetically ordered list of all the classes and interfaces in the API. Scroll down in this list and click *Scanner*. You will see a screen similar to Figure D-2.

Figure D-2 `Scanner` class documentation



Step 3: From this screen you can navigate to any part of the `Scanner` class's documentation. For example, to view a list of the class's methods, click the *METHOD* link near the top of the page. To view a list of the class's constructors, click the *CONSTR* link. Explore these and other links to get a feel for the documentation.