

Task1: Installing and Configuring JDK 7

This task covers the following topics:

- Downloading JDK 7
- Installing JDK 7
- Configuring JDK
- Verifying Configurations

1.1 Downloading JDK 7

You can download the latest JDK 7 from

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>.

Consult with your instructor to download an appropriate version and update.

1.2 Installing JDK 7 on Windows

Assume that you have downloaded the file named [jdk-7-windows-i586.exe](#) (for 32-bit Windows) or [jdk-7-windowsx64.exe](#) (for 64-bit Windows). Since Java is frequently updated, the file you have downloaded may be named slightly differently. For example, you may get a different name such as `jdk-7u1-windows-i586.exe`.) Follow the steps below to install JDK 7:

1. Double click [jdk-7-windows-i586.exe](#) to run the installation program. You will see the JDK 7 Setup dialog displayed, as shown in Figure 1.

2. Click *Next* to display the JDK Custom Setup dialog, as shown in Figure 2.

3. You may install JDK in a custom directory. For simplicity, don't change the directory. Click *Next* to install JDK.

4. After installation completed, the Complete dialog is displayed in Figure 3. Click *Finish* to close the dialog.

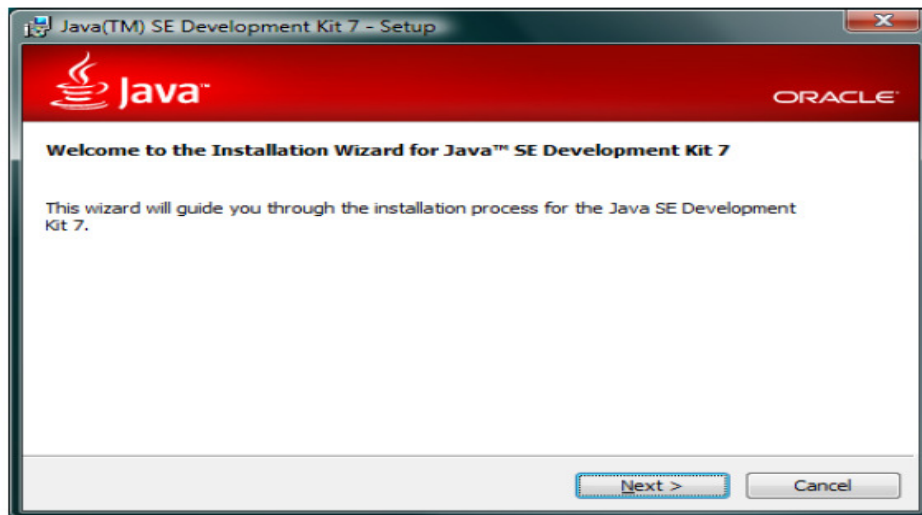


Figure 1

The JDK 7 Setup dialog is displayed for setting up JDK 7.

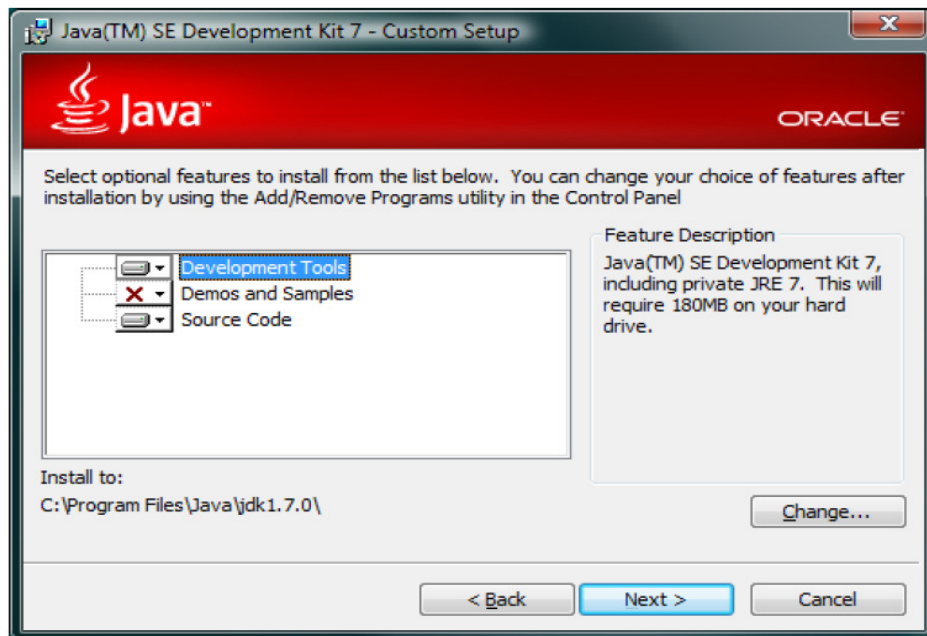


Figure 2

The JDK Custom Setup dialog enables you to choose a custom directory for JDK files.

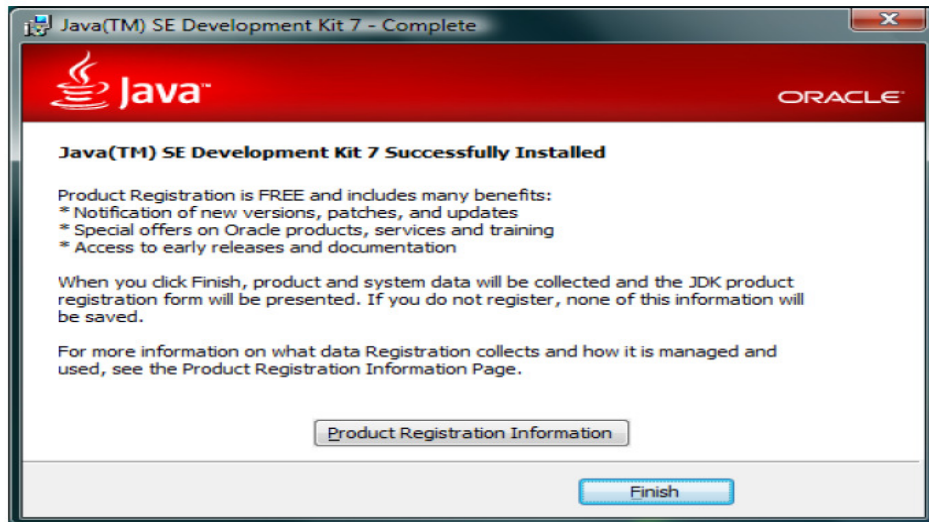


Figure 3

The Complete dialog indicates a successful installation.

1.3 Configuring JDK 7 on Windows

To configure JDK is to make it available in the operating system so that Windows can find your JDK commands such as **javac**.

1.3.1 Configuring JDK on Windows NT, 2000, XP, and ME

To configure JDK on Windows NT, 2000, ME, and XP, set the environment variables as follows:

1. Right-click the My Computer icon on your desktop to display a context menu. Choose Properties from the context menu to open the System Properties window, as shown in Figure 4. (This screen shot is taken from Windows XP. For Windows 2000, NT, and ME users, the System properties window may look slightly different.)

2. In the System properties window, click *Environment Variables* in the advanced tab to display the Environment Variables window, as shown in Figure 5.

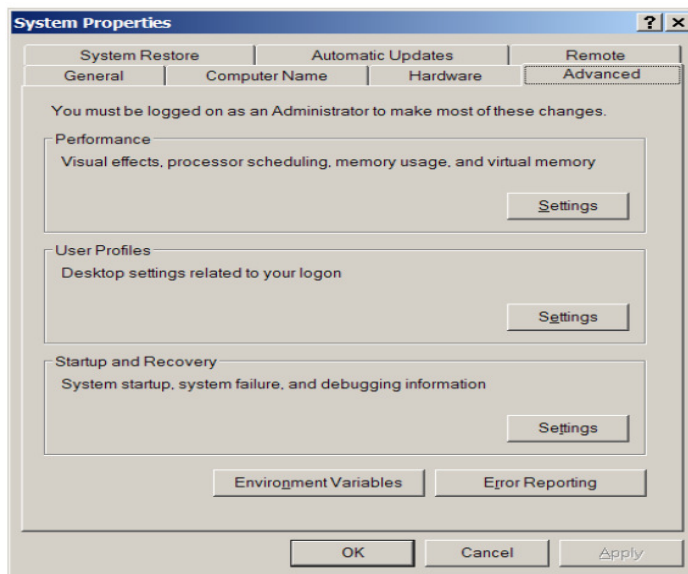


Figure 4

The System Properties window contains system information.

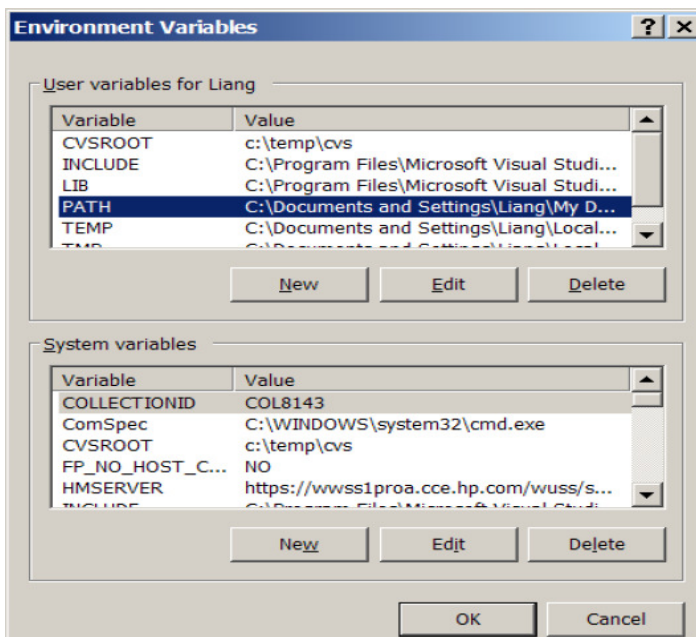


Figure 5

The Environment Variables window enables you to set user and system variables.

3. You can set or modify user variables or systems variables. User variables affect the individual users and system variables affect all the users in the system. In the User variables section, select PATH and click *Edit* if PATH is already a user variable. Otherwise, click *New* to display the New User Variable window as shown in Figure 6.

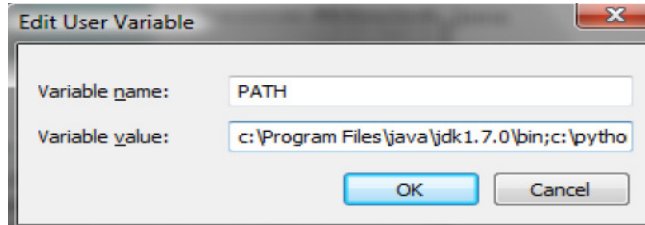


Figure 6

The New User Variable enables you to set a new user variable and its value.

4. Type PATH in the Variable field and c:\Program Files\Java\jdk1.7.0\bin;%path% in the Variable Value field, as shown in Figure 4. Click OK.

NOTE: You don't have to reboot the computer, but you have to open a new command window to use JDK commands.

NOTE: If you download a new version or an update version, the directory name **jdk1.7.0** may be slightly different.

For example, the directory name is **jdk1.7.0_02** for JDK 7 Update 2.

1.3.2 Configuring JDK on Windows 7

Follow the steps below to configure JDK on Windows 7:

1. Left-click on the Start button and choose Control Panel > System and Security > System > Advanced system settings to display the System Properties dialog box.

2. Same as Steps 2-4 in Section 1.3.1.

1.4 Verifying Configurations

To verify whether JDK 7 is configured correctly, type **javac-version** from the command prompt, as shown in Figure 7.

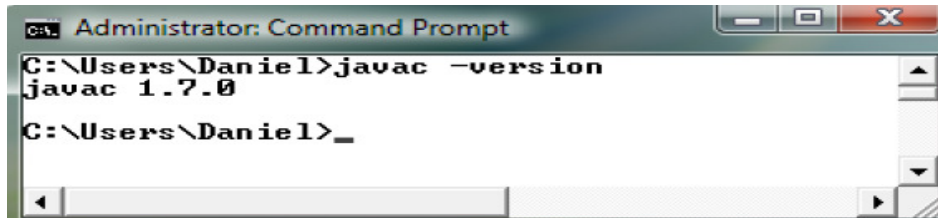


Figure 7

*The **javac** command is not found if JDK is not properly configured, as shown in Figure 8.*

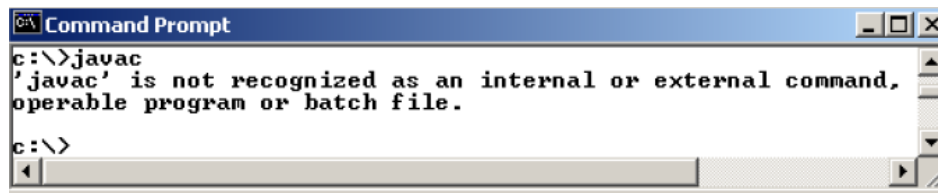


Figure 8

Now try this in Lab.

Task 2: Creating, Compiling and Running Java Programs from the Command Window

This task covers the following topics:

- Opening a Command Window.
- Using Simple DOS Commands (create, change directories, display files, and delete files and directories).
- Creating and Editing Programs Using Notepad and WordPad.
- Compiling and Running Programs.
- Common Errors.

2.1 Opening a Command Window

Using JDK from Windows, you have to type the commands from the command window. Assume you have successfully installed JDK. Start a Command window by clicking the Windows Start button and choosing Run to open the Run dialog box, as shown in Figure 1. Enter cmd in the Open field and click OK to display a command window, as shown in Figure 2.

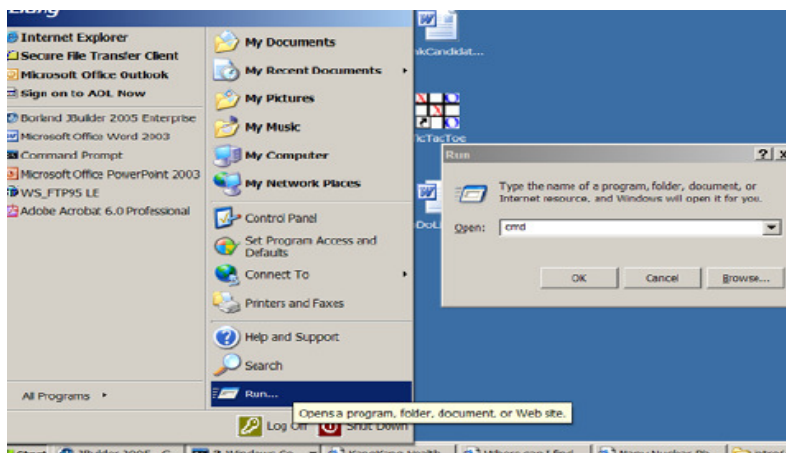


Figure 1

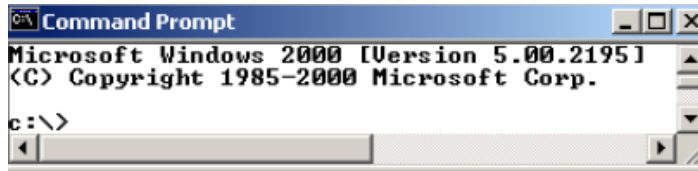


Figure 2

You can type the JDK commands in the command window.

2.2 Simple DOS Commands

To work with JDK on Windows, you need to know some simple DOS commands. Here are several frequently needed commands:

- **dir** - Lists all files in the directory.
- **mkdir dirName** - Creates a new directory named dirName.
- **cd dirName** - Changes to the specified directory. For example, **cd c:** changes to the directory c:\
- **cd ..** - Changes to the parent directory.
- **del filename** - Deletes a file. For example, **del Test.java** deletes the file named Test.java in the current directory.
- **del *.*** - Deletes all files in the directory. [Caution: files deleted from the command window cannot be recovered.]
- **rmdir dirName** - Deletes the specified directory dirName.
- **type filename.java** - Displays the contents of the specified file.

2.3 Creating and Editing Programs Using Notepad and WordPad

You can create programs using Windows Notepad or WordPad. To do so, first open a command window; change the directory to where your programs

should be stored, and type **`notepad filename.java`** or **`write filename.java`** to create a file for Java source code. For example, the following command starts Notepad to create or edit `Welcome.java`:

notepad Welcome.java

If `Test.java` does not exist, a dialog box is displayed to alert you that it is a new file, as shown in Figure 3.

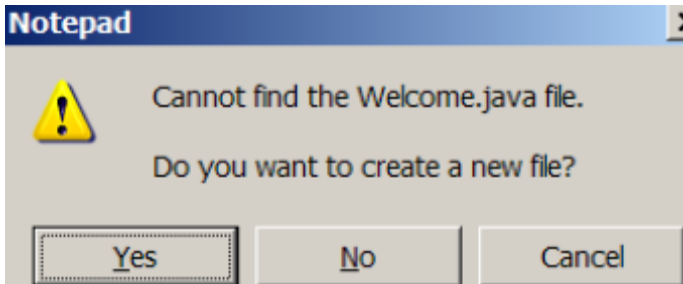


Figure 3

The Notepad alerts you that the specified file is new.

Click **Yes** to create a new file. You can type the code for the program in the Notepad, as shown in Figure 4. Choose **File, Save** to save the file.

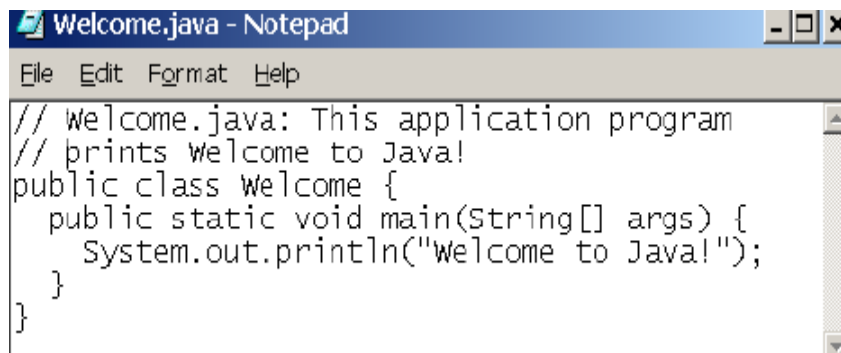


Figure 4

You can use Notepad to create and edit Java source files.

2.4 Compiling and Running Java Programs

To compile the source code, use the **javac** command. For example, the following command compiles `Welcome.java`:

```
javac Welcome.java
```

To run the class, use the **java** command. For example, the following command runs `Welcome`:

```
java Welcome
```

Figure 5 shows a sample run.



Figure 5

*Use the **javac** command to compile and **java** to run programs.*

Now try this in Lab.

NOTE: task 1 and task 2 from Supplement come with book: *Introduction to Java Programming* By Y. Daniel Liang.

Task 3: In this exercise, you will write, compile and run your first java program. As you finish the exercise, note the difference between the source file you write (*. java) and the bytecode that is generated (*. class). A java application is always started by using of the public static void main (String [] args) method.

- a-Create a new file named Section One. In this file, create a class named section one.
- b-Create a public static void main (String [] args) method. In this method, write the code to print “Hello World” to your system output.
- c-Save, compile, and run the file.
- d-Use the extension .class in the command line when executing the program.
- e- Add another system.out. println (“Hello Java!”) to print another message to the console. Remember to terminate the instruction with a semicolon (all java instructions must end with a semicolon).
- f- Modify the public static void main (String [] args) method in any way you choose (for example, delete the void word). What happens?
- g-Add some comments to the file to document each step that you made while programming this application.