

Installing Java, Java 3D, and Eclipse in a Windows Environment

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Comments and questions to jbelcher@mit.edu

Table of Contents
(LIVE LINKS)

1	Introduction.....	4
2	Installing <i>Java 2</i> , <i>Java3D</i> , and <i>Eclipse</i> in a Windows Environment.....	4
2.1	Downloading and Installing the Java™ 2 SDK, SE 1.4.2	4
2.2	Downloading the Eclipse SDK 3.1.2	6
2.3	Downloading and Installing Java 3D™ API 1.3.1	6
3	Downloading A Code Base and Creating A Project in <i>Eclipse</i>	10
3.1	Downloading the Code Base.....	10
3.2	Creating a Project in Eclipse.....	10
3.3	Generating JavaDocs for the <i>ProjectName</i> Project in Eclipse.....	11
4	References.....	13
5	Index	14

Figure Captions

Figure 2.1-1: The Eclipse Homepage	4
Figure 2.1-2: The Eclipse Download Page	4
Figure 2.1-3: Java Runtimes	5
Figure 2.1-4: Sun Download Page	5
Figure 2.1-5: Sun SDK SE 1.4.2_11 Download Page	6
Figure 2.3-1: Java3D Downloads Page.....	8
Figure 2.3-2: Final Java3D Downloads Page	8
Figure 3.2-1: Creating a Project in Eclipse.....	10
Figure 3.2-2: Specifying the Name of the Project in Eclipse	11
Figure 3.3-1: Generating Javadocs	12

1 Introduction

This document is a guide to installing *Java*, *Java3D*, and *Eclipse* in a Windows environment. Our intended audience is undergraduates, graduate students or postdoctoral fellows in science and engineering who have some knowledge of programming and who would like use *Eclipse* and *Java* to develop scientific applications in their area of specialty.

2 Installing Java 2, Java3D, and Eclipse in a Windows Environment

2.1 Downloading and Installing the Java™ 2 SDK, SE 1.4.2

In this section we describe how to download and install the various components you will need to create applications in *Eclipse* using *Java* and *Java3D*. The screen shots below are current as of April 2006.

First, go to the Eclipse website, <http://www.eclipse.org/>.



Figure 2.1-1: The Eclipse Homepage

From this page go to [Downloads](#).



Figure 2.1-2: The Eclipse Download Page

First you will need to download and install a Java Runtime Environment (JRE) and other components from Sun. Under the heading “**Get Eclipse**”, you will see a paragraph that says in part:

... You will need [a Java runtime environment \(JRE\)](#) to use Eclipse. All downloads are provided under the terms and conditions of the Eclipse.org Software User Agreement unless otherwise specified.

Click on the link in the sentence “You will need [a Java runtime environment \(JRE\)](#)”.

Java runtimes

Where to find a Java runtime

This version of Eclipse is designed to run on a 1.4 level Java runtime environment or Java development kit. You do not need a development kit to do Java development using the Eclipse Java development tools. However if you want to have source for the base class libraries available for debugging you will need to get a development kit because Java runtimes typically don't have source for the class libraries.

Here are some links to commercial vendors that supply Java development kits and Java runtime environments. You will need to decide for yourself which works best for you, and which licensing terms work best for you. These links are provided only as a convenience.

Vendor	Platform	Links	Important Notes
IBM	Linux	IBM Developer Kit for Linux, Java™ 2 Technology Edition, Version 1.4	
IBM	AIX	IBM Developer Kit for AIX Release 1.4	AIX Read Me (August 28, 2003)
IBM	Neutrino/Photon	IBM J9	J9 Read Me (March 22, 2002)
Sun	Windows	Java™ 2 SDK, Standard Edition Version 1.4.2 Java™ 2 Runtime Environment, Standard Edition Version 1.4.2	

Figure 2.1-3: Java Runtimes

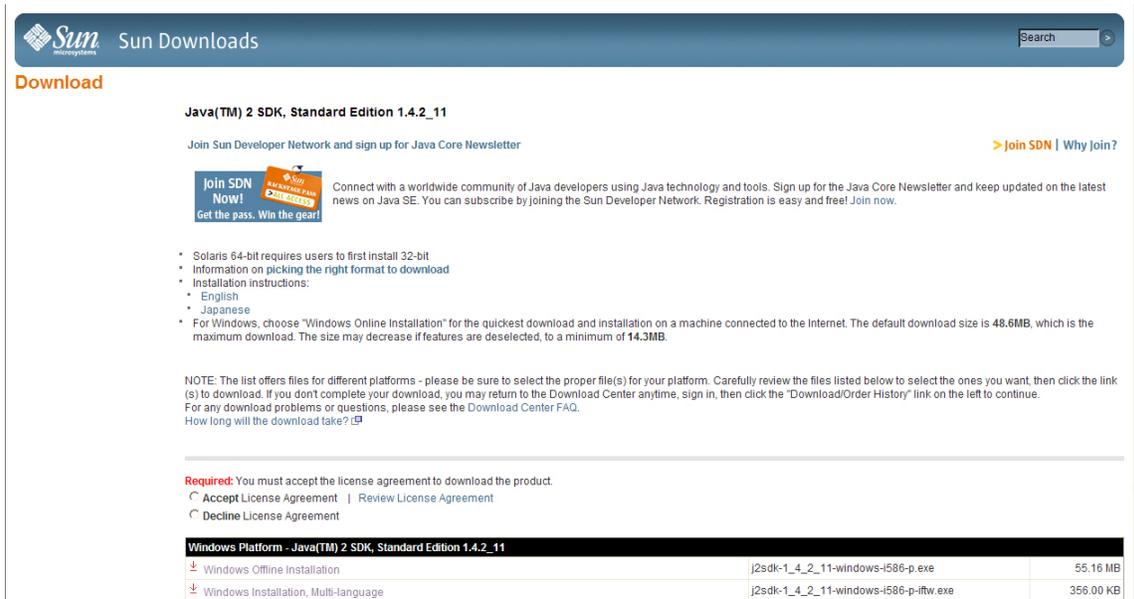
Go to the row labeled “Sun Windows” and chose [Java™ 2 SDK, Standard Edition Version 1.4.2](#). You will now be at the Sun download page.

The screenshot shows the Sun Developer Network (SDN) website. The main heading is "Sun Developer Network (SDN)". Below it, there's a search bar and a navigation menu. The main content area is titled "J2SE 1.4.2" and "Download Java 2 Platform, Standard Edition, v 1.4.2 (J2SE)". There are several download options:

- NetBeans IDE + J2SE SDK**: This distribution of the J2SE Software Development Kit (SDK) includes NetBeans IDE, which is a powerful integrated development environment for developing applications on the Java platform. More info... [Download J2SE v 1.4.2_11 SDK with NetBeans 5.0 Bundle \(English Only\)](#)
- J2EE 1.4**: The Java 2 Enterprise Edition 1.4 SDK adds support for EJBs, JSPs, XML, and Web Services APIs in a single bundle. More info... [Download J2EE 1.4 SDK](#)
- J2SE v 1.4.2_11 SDK** includes the JVM technology. The J2SE Software Development Kit (SDK) supports creating J2SE applications. More info... [Download J2SE SDK](#)
- J2SE v 1.4.2_11 JRE** includes the JVM technology. The J2SE Java Runtime Environment (JRE) allows end-users to run Java applications. More info... [Download J2SE JRE](#)
- J2SE v 1.4.2 Documentation**: [Download](#)

Figure 2.1-4: Sun Download Page

You want the SDK (Software Development Kit), so choose [Download J2SE SDK](#)



Java(TM) 2 SDK, Standard Edition 1.4.2_11

Join Sun Developer Network and sign up for Java Core Newsletter [>Join SDN | Why Join?](#)

Join SDN Now! Get the pass. Win the gear! Connect with a worldwide community of Java developers using Java technology and tools. Sign up for the Java Core Newsletter and keep updated on the latest news on Java SE. You can subscribe by joining the Sun Developer Network. Registration is easy and free! Join now.

- Solaris 64-bit requires users to first install 32-bit
- Information on picking the right format to download
- Installation instructions:
 - English
 - Japanese
- For Windows, choose "Windows Online Installation" for the quickest download and installation on a machine connected to the Internet. The default download size is 48.6MB, which is the maximum download. The size may decrease if features are deselected, to a minimum of 14.3MB.

NOTE: The list offers files for different platforms - please be sure to select the proper file(s) for your platform. Carefully review the files listed below to select the ones you want, then click the link(s) to download. If you don't complete your download, you may return to the Download Center anytime, sign in, then click the "Download/Order History" link on the left to continue. For any download problems or questions, please see the [Download Center FAQ](#). How long will the download take? [?](#)

Required: You must accept the license agreement to download the product.

Accept License Agreement | [Review License Agreement](#)

Decline License Agreement

Windows Platform - Java(TM) 2 SDK, Standard Edition 1.4.2_11		
↓ Windows Offline Installation	j2sdk-1_4_2_11-windows-i586-p.exe	55.16 MB
↓ Windows Installation, Multi-language	j2sdk-1_4_2_11-windows-i586-p-iftw.exe	356.00 KB

Figure 2.1-5: Sun SDK SE 1.4.2_11 Download Page

Download the *.exe* file from **Windows Platform - Java(TM) 2 SDK, Standard Edition 1.4.2_11: Windows Offline Installation**, `j2sdk-1_4_2_11-windows-i586-p.exe`.

Install the package by double clicking on the downloaded *.exe* file. After the install, do not restart your machine.

2.2 Downloading the Eclipse SDK 3.1.2

Go back to the Eclipse [download page](#) and click on Eclipse SDK 3.1.2, Windows (103 MB) [torrents].

Choose a mirror site (University of Buffalo CSE Department is a good site for the US) and download the eclipse zip package *eclipse-SDK-3.1.2-win32.zip*.

There is no installer package for *eclipse*. Create a folder on your *C:* drive named *Development*, and create a folder in that folder named *Tools*. Unzip the above *.zip* file into the *Development > Tools* folder. This will create an *eclipse* folder *C:\Development\Tools\eclipse* and the unzip process will put the contents of the IDE there.

2.3 Downloading and Installing Java 3D™ API 1.3.1

Go to Sun's download page at <http://java.sun.com/downloads/>. You will be at the following page:

Java | Solaris | Communities | Sun Store

Sun Developer Network (SDN)
 APIs Downloads Technologies Products Support Sun.com

Developers Home > Products & Technologies > Java Technology >

Java Technology Downloads Home

■ Downloads
 - Early Access
 - Tools

Reference
 - API Specifications
 - Documentation
 - Code Samples & Apps
 - BluePrints
 - Technical Articles & Tips
 - FAQs
 - White Papers
 - Case Studies
 - Glossary
 - Presentations & Audiocasts

Community
 - Forums
 - Bug Database
 - Chats
 - User Groups
 - Newsletters
 - Books & Authors

News & Updates

Learning
 - New to Java Center
 - Tutorials
 - Training
 - Certification
 - Quizzes

This page organizes final releases of Java Technology downloads by platform. Look under Other for downloads not associated with one platform. Information and downloads for pre-released software and software under development can be found on the [Early Access](#) and [Java Community Process](#) sites.

Java 2 Platform, Standard Edition (J2SE)
 The essential Java 2 SDK, tools, runtimes, and APIs for developers writing, deploying, and running applets and applications in the Java programming language. Also includes Java Development Kit and Java Runtime Environment.

Full J2SE Technology Downloads List

Full J2SE Technology Downloads List

Sun Community Source Licensing (SCSL) with a comprehensive Application Programming Model and Compatibility Test Suite for building

J2SE 1.5.0
 J2SE 1.4.2
 J2SE 1.4.1 (EOL)
 J2SE 1.4.0 (EOL)
 J2SE 1.3.1
 J2SE 1.3.0 (EOL)
 J2SE 1.2.2 (EOL)
 JDK 1.1 (EOL)

InfoBus (EOL) range of consumer products, including pagers, cellular phones, screenphones, digital set-top boxes

Java 3D ios. The portability and extensibility of both XML and Java make them the ideal choice for information and different servers that run on varied system platforms.

Java Access Bridge

Java Accessibility Utilities

Java Advanced Imaging (JAI)

Java Authentication & Authorization Service (JAAS)

Java Communications API (JCA)

Java Cryptography Extension (JCE)

JDBC Technology

Java Foundation Class (JFC) / Swing

Java HotSpot Virtual Machine

Java Media Framework (JMF)

Java Naming and Directory Interface (JNDI)

Java Platform Debugger Architecture (JPDA)

Java Plug-in

Java Secure Socket Extension (JSSE)

Java Speech API

Figure 2.3-6: Java Technology Downloads

From the “*Full J2SE Technology Downloads List*” pull down menu choose [Java3D](#).

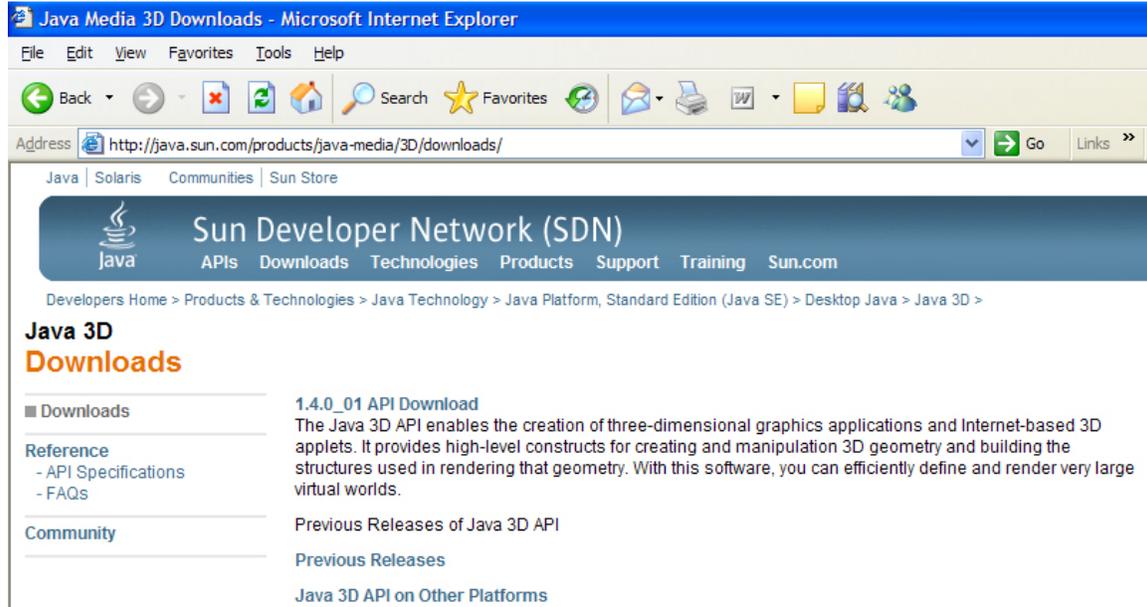


Figure 2.3-1: Java3D Downloads Page

Chose *1.4.0_01 API Download*. On the next page choose download *1.4.0_01 API*.. You will be a page that looks in part like:

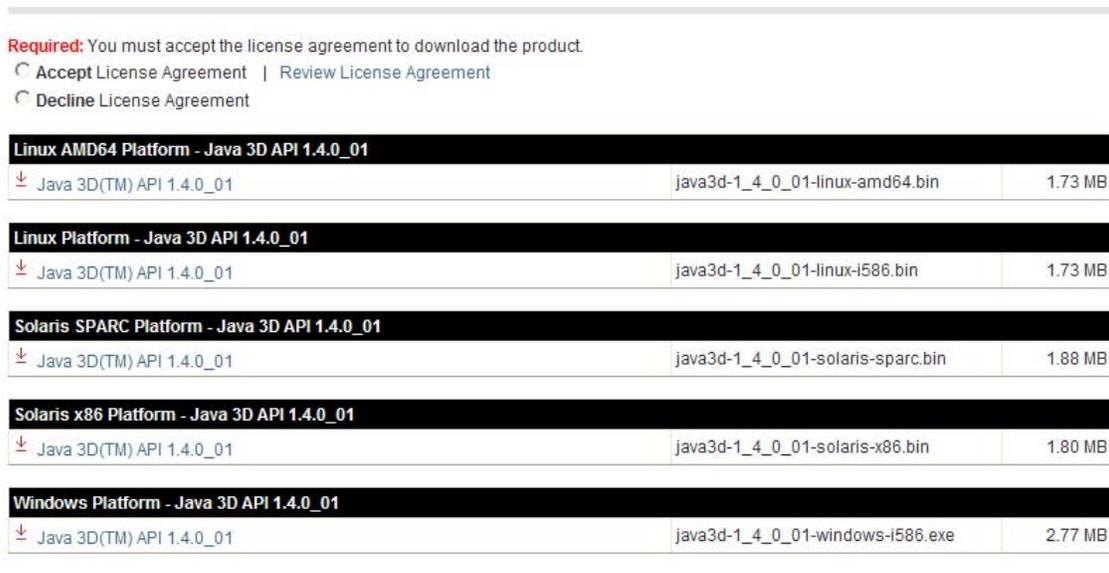


Figure 2.3-2: Final Java3D Downloads Page

Accept the license agreement and under **Windows Platform - Java 3D(TM) API 1.3.1** choose *Java 3D for Windows (OpenGL Version) SDK for the JDK (includes Runtime)* to download the .exe package *java3d-1_3_1-windows-i586-opengl-sdk.exe*.

Once the *.exe* file is downloaded double-click to install. The install will automatically find the directory where you installed the Java2 SDK package and install Java3D there.

Reboot your machine and delete the installers.

3 Downloading a Code Base and Creating a Project in *Eclipse*

3.1 Downloading the Code Base

Download the project code base from the web. This could for example be the *SundquistDLIC* code base, which you can find at <http://web.mit.edu/viz/soft/>. In the narrative below we will refer generically to the folder which contains this code base as *ProjectName*. This would for example be the *SundquistDLIC* folder containing that code base, or another code base from the *TEAL Project*, or a different set of code entirely.

3.2 Creating a Project in Eclipse

Create a folder in your *C:\Development* drive named *Projects*. Place the code you have downloaded in a folder named *C:\Development\Projects\ProjectName*.

Chose “*File>New>Project*” in the Eclipse menus. Then choose “Java Project”.

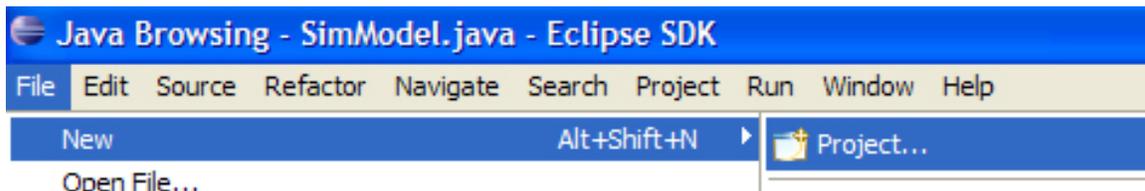


Figure 3.2-1: Creating a Project in Eclipse

In the dialog box that comes up (see Figure 3.2-2), enter “*ProjectName*”.

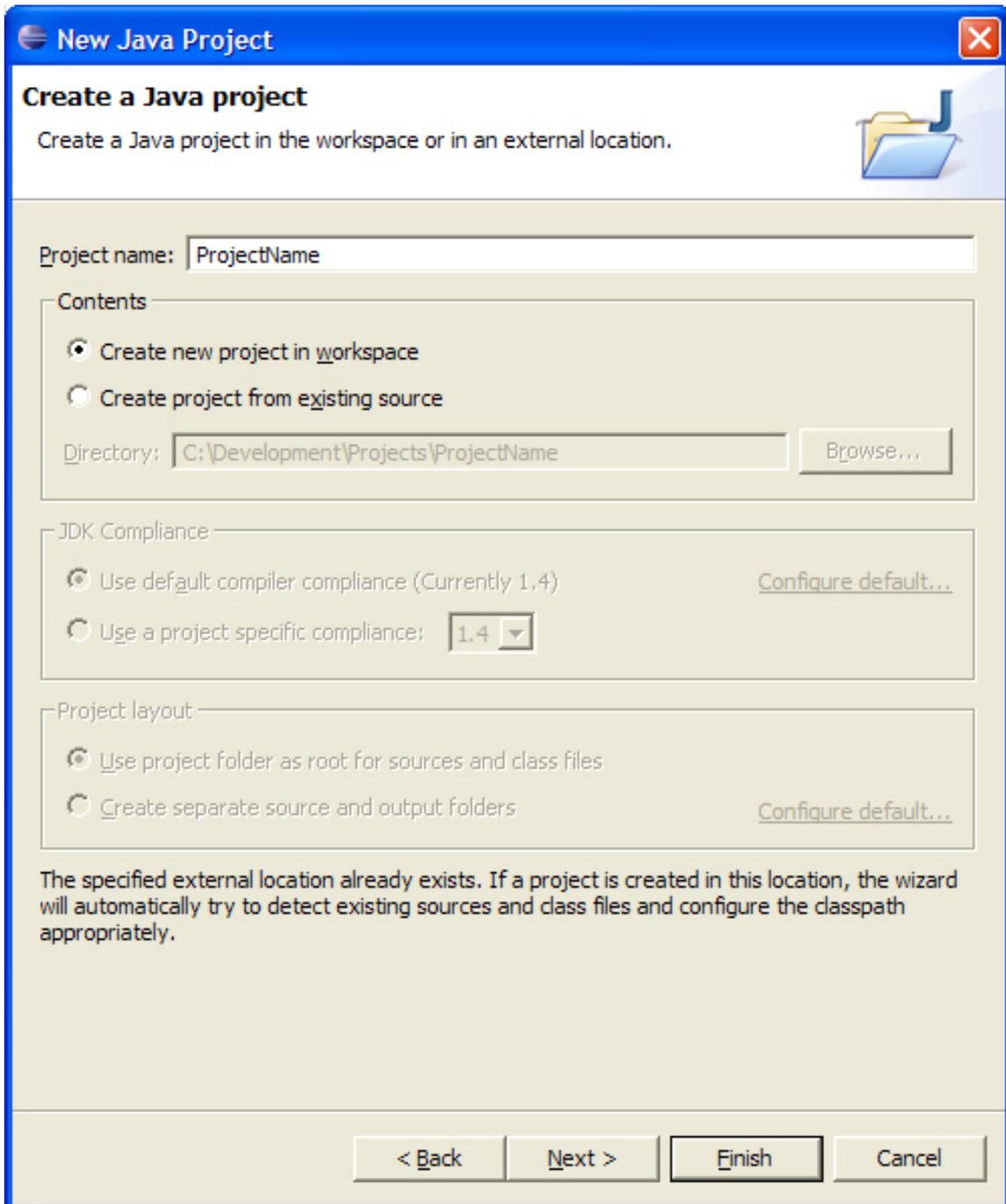


Figure 3.2-2: Specifying the Name of the Project in Eclipse

Choose “*Next>*”. The *ProjectName* project will be built in Eclipse.

3.3 Generating JavaDocs for the *ProjectName* Project in Eclipse

You may want to generate javadocs for this project, if they do not already exist, or if you modify the existing code (see <http://java.sun.com/j2se/javadoc/index.jsp> for information on javadocs). Do this by making sure Eclipse is in the “Java Browsing perspective” (third icon from the upper right below) and choose “*Project > Generate Javadoc*”.

A set of javadocs will be generated in the folder `C:\Development\Projects\ProjectName\doc`. The *html* file `index.html` in that folder is the root *html* file for the javadocs.

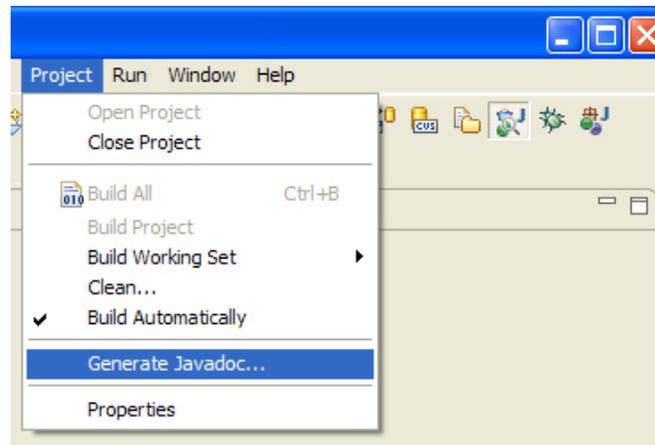


Figure 3.3-1: Generating Javadocs

4 References

Error! No table of authorities entries found.

5 Index

G

generate javadocs.....10

J

Java Runtime Environment.....5

javadocs..... 10
JRE..... 5

S

SDK..... 6
Software Development Kit..... 6