Tutorial on how to install and run Java on Lego Mindstorms EV3 using Eclipse on Windows

1. Download the Mindstorm Software

https://www.lego.com/en-us/mindstorms/downloads/download-software

You will need the USB driver for your EV3 and the easiest way to install it is to install the complete EV3 Developer Software. This is LEGO's own software based on LabView. It is a graphical programming language and we will **NOT** be using it. We only need the USB driver that comes with it.



Just double click on the installer to launch the process. You will not only have the easy to use programming environment, but also all the driver installed.

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CAREFULLY READ THIS SOFTWARE LICENSE AG DOWNLOADING THE SOFTWARE AND/OR CLICK COMPLETE THE INSTALLATION PROCESS, YOU THIS AGREEMENT. IF YOU DO NOT WISH TO BEG BE BOUND BY ITS TERMS AND CONDITIONS, DO AND RETURN THE SOFTWARE (WITH ALL ACCO THEIR CONTAINERS) WITHIN THIRTY (30) DAYS SUBJECT TO NI'S THEN-CURRENT RETURN PO TERMS ON BEHALF OF AN ENTITY, YOU AGREE FINITY TO THESE TERMS	GREEMENT ("AGF (ING THE APPLIC, AGREE TO BE BC COME A PARTY T() NOT INSTALL OI MPANYING WRIT OF RECEIPT. ALL (LICY. IF YOU ARE THAT YOU HAVE /	REEMENT"). BY ABLE BUTTON JUND BY THE T O THIS AGREEM R USE THE SOI TEN MATERIAL: RETURNS TO ACCEPTING T AUTHORITY TO	TO TERMS OF MENT AND FTWARE, S AND NI WILL BE HESE BIND THE V
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2. Install Java

Check if you already have java installed: open command prompt by typing cmd in the search box. And then type java -version



2.1 Download & install version 7 of the Java Development Kit (JDK) Visit http://www.oracle.com/technetwork/java/javase/downloads/java-archivedownloads-javase7-521261.html to download the version 7. You will need the JDK version. Oracle did already release version 8 of Java, but not yet for the EV3 brick. To build a proper Java project you need to build it for version 1.7. The catch is that the latest version of Eclipse requires Java version 8, which we will download and install next. You can have multiple version of Java installed on your computer without any problems.



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2.2 Download & install version 8 of the Java Development Kit (JDK) for Eclipse

You can skip this step if you already have java 8 (1.8) installed.

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



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3. Install LeJOS

The heart of any EV3 Java project is LeJOS. Let's install it on your computer

3.1 Download LeJOS

Visit <u>https://sourceforge.net/projects/ev3.lejos.p/files/</u> to download the latest version of LeJOS. Once the download is complete run the file.



Chose JDK 1.7 as the development kit for leJOS EV3, as it is the recommended version for this release.

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4. Install Eclipse IDE

The Eclipse Integrated Development Environment is a great software editor for your Java projects. It is free and open source.

4.1 Download the Eclipse IDE

Go to <u>https://www.eclipse.org/downloads/</u> and download the Eclipse Oxygen version



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8	Eclipse IDE for Java Developers The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Mylyn, Maven and Gradle integration	ŕ
	Eclipse IDE for Java EE Developers Tools for Java developers creating Java EE and Web applications, including a Java IDE, tools for Java EE, JPA, JSF, Mylyn, EGit and others.	
C:	Eclipse IDE for C/C++ Developers An IDE for C/C++ developers with Mylyn integration.	
R	Eclipse IDE for JavaScript and Web Developers The essential tools for any JavaScript developer, including JavaScript, HTML, CSS XML languages support, Git client, and Mylyn.	,
	Eclipse IDE for PHP Developers The essential tools for any PHP developer, including PHP language support, Git client, Mylyn and editors for JavaScript, HTML, CSS and XML.	
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Eclipse IDE for Java Developers The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Mylyn, Maven and Gradle integration.
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5. Configure Eclipse

You will find the Eclipse Marketplace in the Help Menu. Enter "lejos" in the search field and then click on install in the EV3 Plugin.



Select "I accept the terms of the license agreement" and click on Finish. You will be asked to restart eclipse. After Eclipse restarts you need to enter the Preferences, which are available under the Window Menu.



Set the EV3_HOME

First, you need to select the "leJOS EV3" tab on the left before clicking on "Browse" to select the directory in which you installed LeJOS. Click on "Apply" to complete the setup.

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Setup the different versions of Java

While you are in the Preferences, go to the "Java" tab and then on the "Installed JREs". Use the "Add" button to add any missing JREs to the list. Setup Version 7 as the default, since you will be building your EV3 programs towards that target.

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