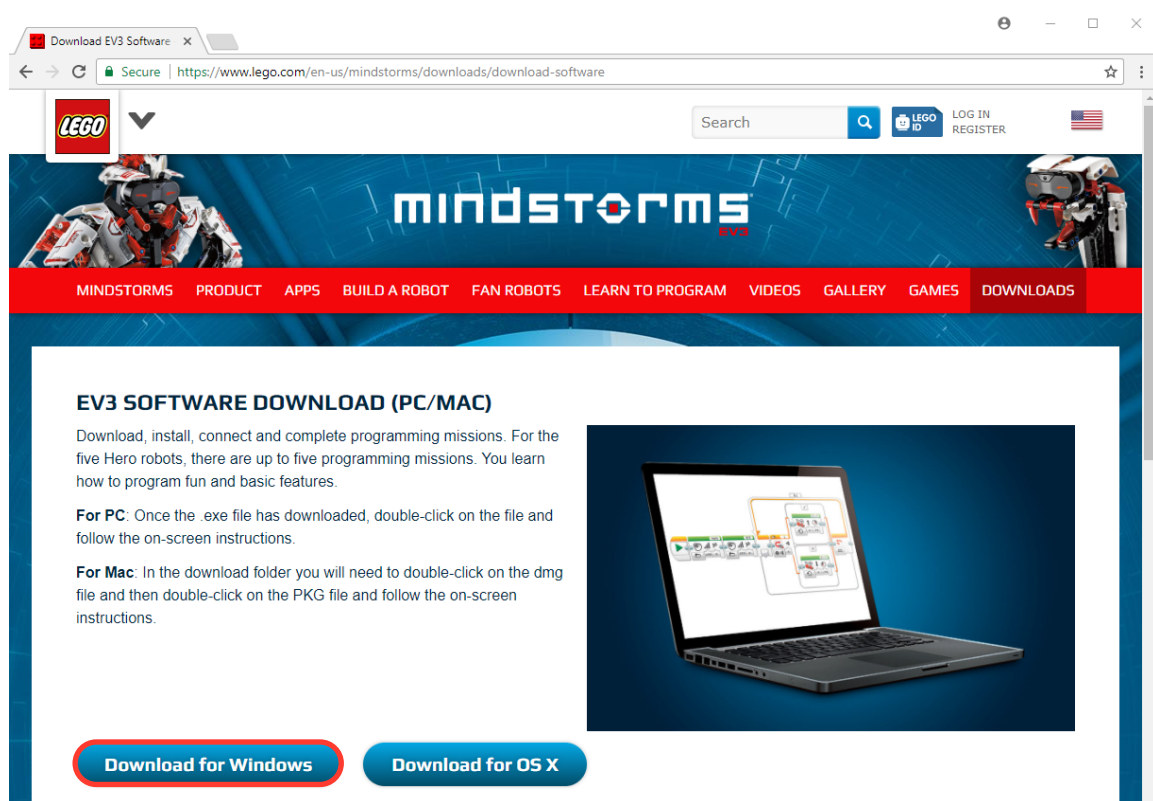


Tutorial on how to install and run Java on Lego Mindstorms EV3 using Eclipse on Windows

1. Download the Mindstorm Software

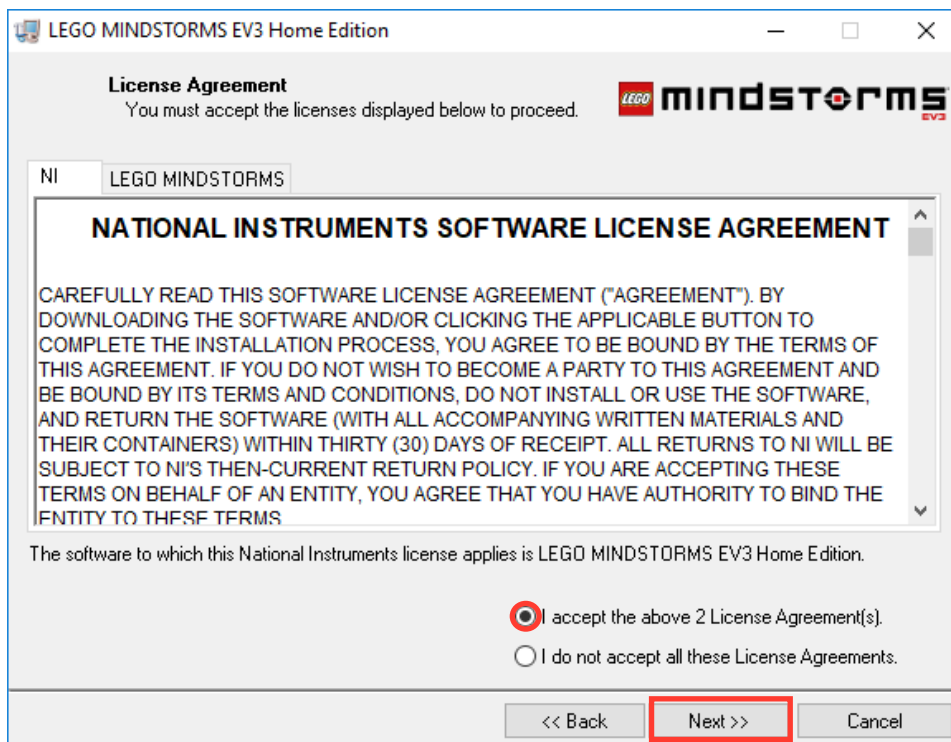
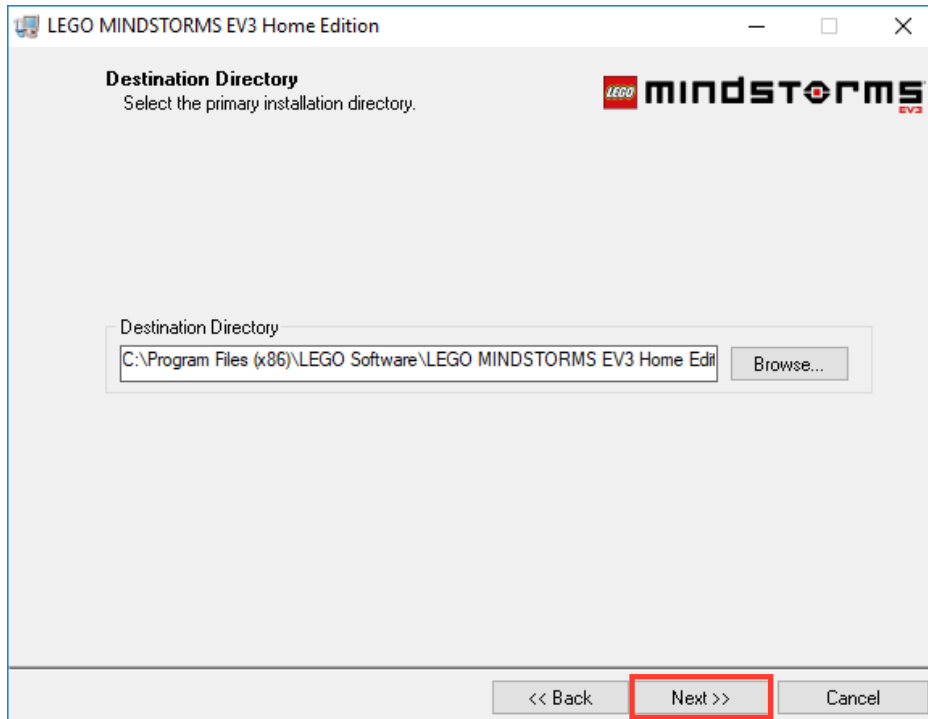
<https://www.lego.com/en-us/mindstorms/downloads/download-software>

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.



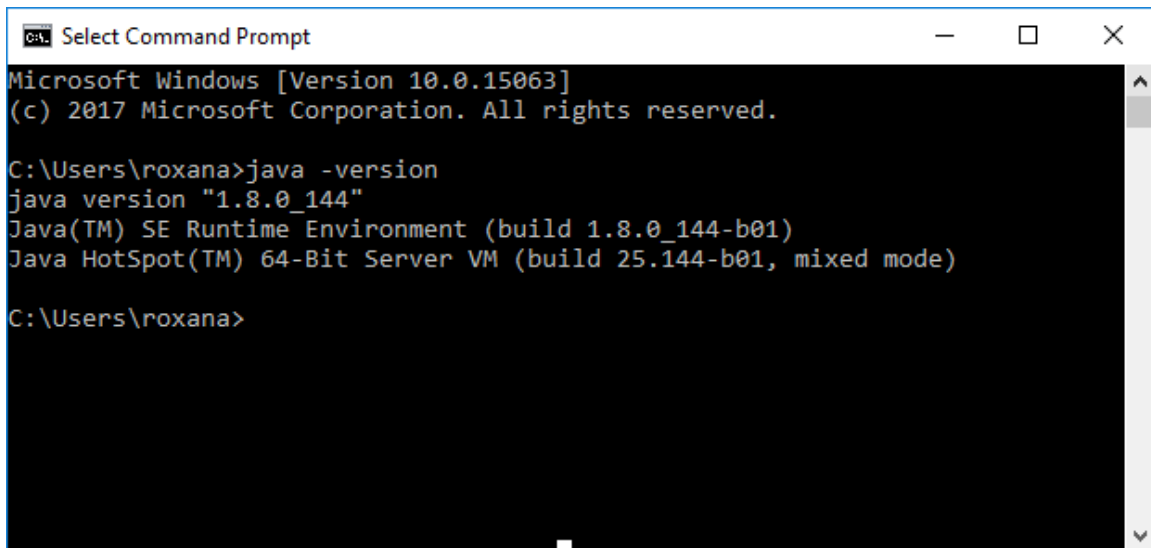
The screenshot shows a web browser window displaying the LEGO Mindstorms EV3 software download page. The browser's address bar shows the URL: <https://www.lego.com/en-us/mindstorms/downloads/download-software>. The page features the LEGO logo and the Mindstorms EV3 branding. A navigation menu includes links for MINDSTORMS, PRODUCT, APPS, BUILD A ROBOT, FAN ROBOTS, LEARN TO PROGRAM, VIDEOS, GALLERY, GAMES, and DOWNLOADS. The main content area is titled "EV3 SOFTWARE DOWNLOAD (PC/MAC)" and provides instructions for downloading and installing the software. It includes a section for PC users, stating that once the .exe file is downloaded, users should double-click on the file and follow the on-screen instructions. For Mac users, it instructs them to double-click on the dmg file and then double-click on the PKG file, following the on-screen instructions. Below the text, there is an image of a laptop displaying the software interface. At the bottom of the page, there are two buttons: "Download for Windows" and "Download for OS X".

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.



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`



```
Microsoft Windows [Version 10.0.15063]
(c) 2017 Microsoft Corporation. All rights reserved.

C:\Users\roxana>java -version
java version "1.8.0_144"
Java(TM) SE Runtime Environment (build 1.8.0_144-b01)
Java HotSpot(TM) 64-Bit Server VM (build 25.144-b01, mixed mode)

C:\Users\roxana>
```

2.1 Download & install version 7 of the Java Development Kit (JDK)

Visit <http://www.oracle.com/technetwork/java/javase/downloads/java-archive-downloads-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.

Java Archive Downloads

www.oracle.com/technetwork/java/javase/downloads/java-archive-downloads-javase7-521261.html

Overview Downloads Documentation Community Technologies Training

Java SE 7 Archive Downloads

Go to the [Oracle Java Archive](#) page.

Thank you for downloading this release of the Java™ Platform, Standard Edition Development Kit (JDK™). The JDK is a development environment for building applications, applets, and components using the Java programming language.

The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java™ platform.

WARNING: These older versions of the JRE and JDK are provided to help developers debug issues in older systems. They are not updated with the latest security patches and are not recommended for use in production.

For production use Oracle recommends downloading the latest JDK and JRE versions and allowing auto-update.

Only developers and Enterprise administrators should download these releases.

Downloading these releases requires an oracle.com account. If you don't have an oracle.com account you can use the links on the top of this page to learn more about it and register for one for free.

For current Java releases, please consult the [Oracle Software Download](#) page.

For more information on the transition of products from the legacy Sun download system to the Oracle Technology Network, visit the [SDLC Decommission](#) page announcement.

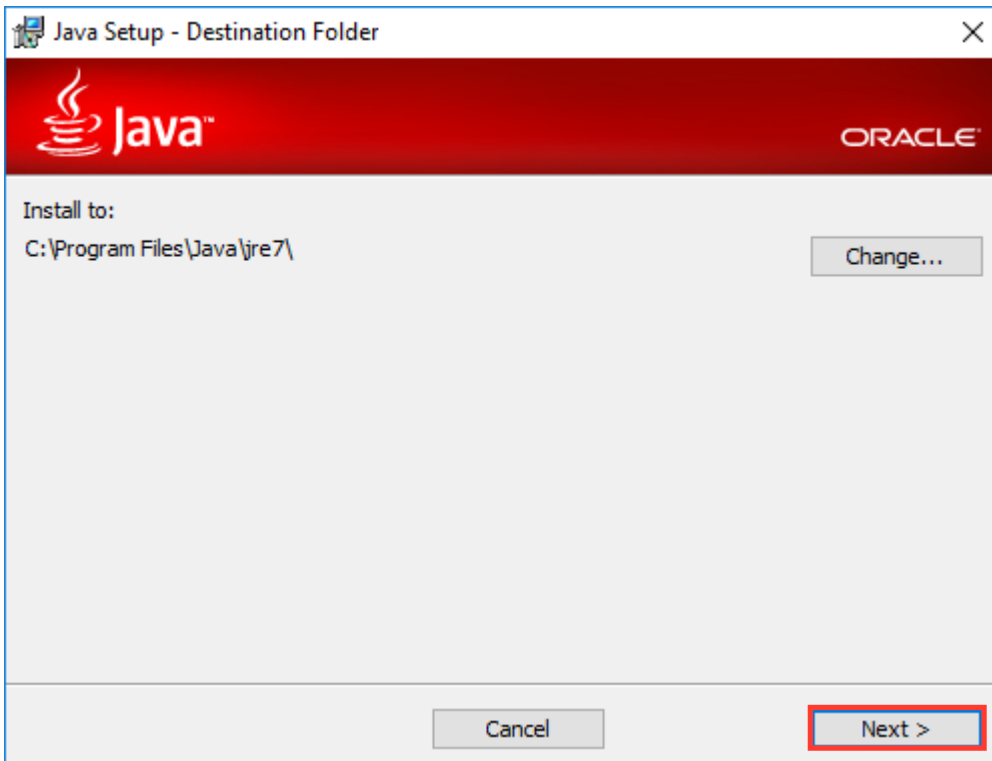
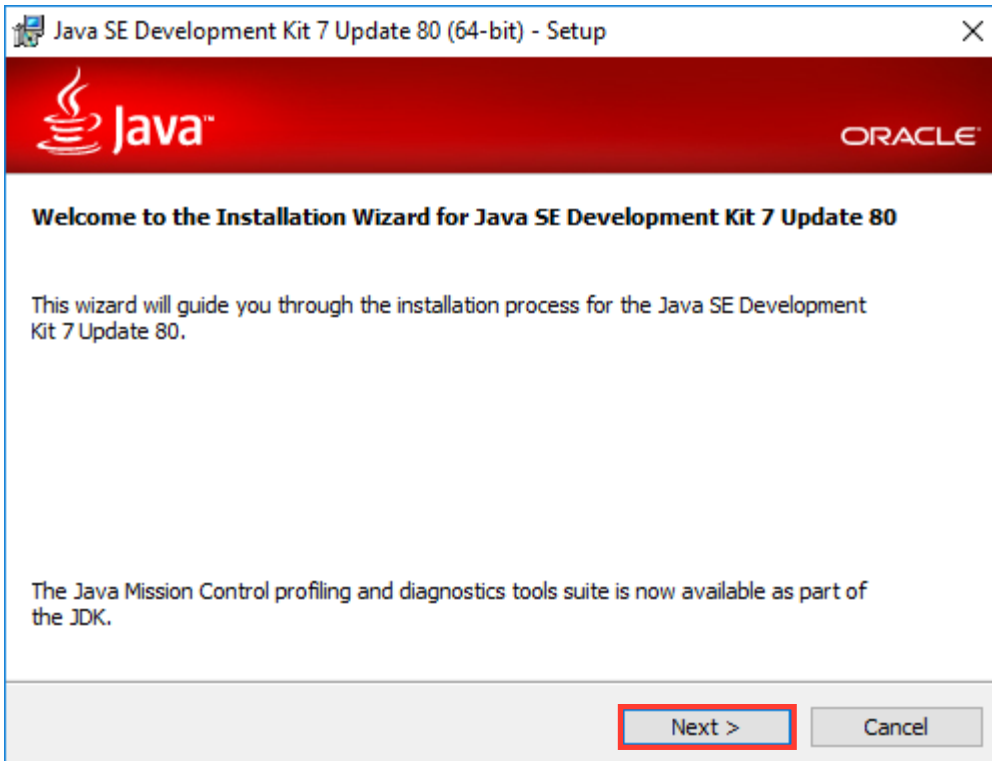
Java SE Development Kit 7u80

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Product / File Description	File Size	Download
Linux x86	130.44 MB	jdk-7u80-linux-i586.rpm
Linux x86	147.68 MB	jdk-7u80-linux-i586.tar.gz
Linux x64	131.69 MB	jdk-7u80-linux-x64.rpm
Linux x64	146.42 MB	jdk-7u80-linux-x64.tar.gz
Mac OS X x64	196.94 MB	jdk-7u80-macosx-x64.dmg
Solaris x86 (SVR4 package)	140.77 MB	jdk-7u80-solaris-i586.tar.Z
Solaris x86	96.41 MB	jdk-7u80-solaris-i586.tar.Z
Solaris x64 (SVR4 package)	24.72 MB	jdk-7u80-solaris-x64.tar.Z
Solaris x64	16.38 MB	jdk-7u80-solaris-x64.tar.gz
Solaris SPARC (SVR4 package)	140.03 MB	jdk-7u80-solaris-sparc.tar.Z
Solaris SPARC	99.47 MB	jdk-7u80-solaris-sparc.tar.gz
Solaris SPARC 64-bit (SVR4 package)	24.05 MB	jdk-7u80-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	19.44 MB	jdk-7u80-solaris-sparcv9.tar.Z
Windows x86	138.35 MB	jdk-7u80-windows-i586.exe
Windows x64	140.09 MB	jdk-7u80-windows-x64.exe
Back to top		

Java SE Runtime Environment 7u80



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>

The screenshot shows the Oracle Java SE Downloads page. The browser address bar displays www.oracle.com/technetwork/java/javase/downloads/index.html. The Oracle logo is visible in the top left. A navigation menu includes 'Menu' and a search bar. The breadcrumb trail reads 'Oracle Technology Network > Java > Java SE > Downloads'. On the left, a sidebar lists various Java products. The main content area has tabs for 'Overview', 'Downloads', 'Documentation', 'Community', 'Technologies', and 'Training'. The 'Downloads' tab is active, showing 'Java SE Downloads'. Two download options are presented: 'Java Platform (JDK) 8u144' and 'NetBeans with JDK 8'. Below these, a section titled 'Java Platform, Standard Edition' features a 'Java SE 8u144' announcement and a list of links: 'Installation Instructions', 'Release Notes', 'Oracle License', 'Java SE Products', 'Third Party Licenses', 'Certified System Configurations', and 'Readme Files' (with sub-links for 'JDK ReadMe' and 'JRE ReadMe'). On the right side of this section, three download buttons are visible: 'JDK DOWNLOAD', 'Server JRE DOWNLOAD', and 'JRE DOWNLOAD'. The 'JDK DOWNLOAD' button is highlighted with a red rectangular box.

Java SE Development Kit x

www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

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Overview Downloads Documentation Community Technologies Training

Java SE Development Kit 8 Downloads

Thank you for downloading this release of the Java™ Platform, Standard Edition Development Kit (JDK™). The JDK is a development environment for building applications, applets, and components using the Java programming language.

The JDK includes tools useful for developing and testing programs written in the Java programming language and running on the Java platform.

See also:

- Java Developer Newsletter: From your Oracle account, select **Subscriptions**, expand **Technology**, and subscribe to **Java**.
- Java Developer Day hands-on workshops (free) and other events
- Java Magazine

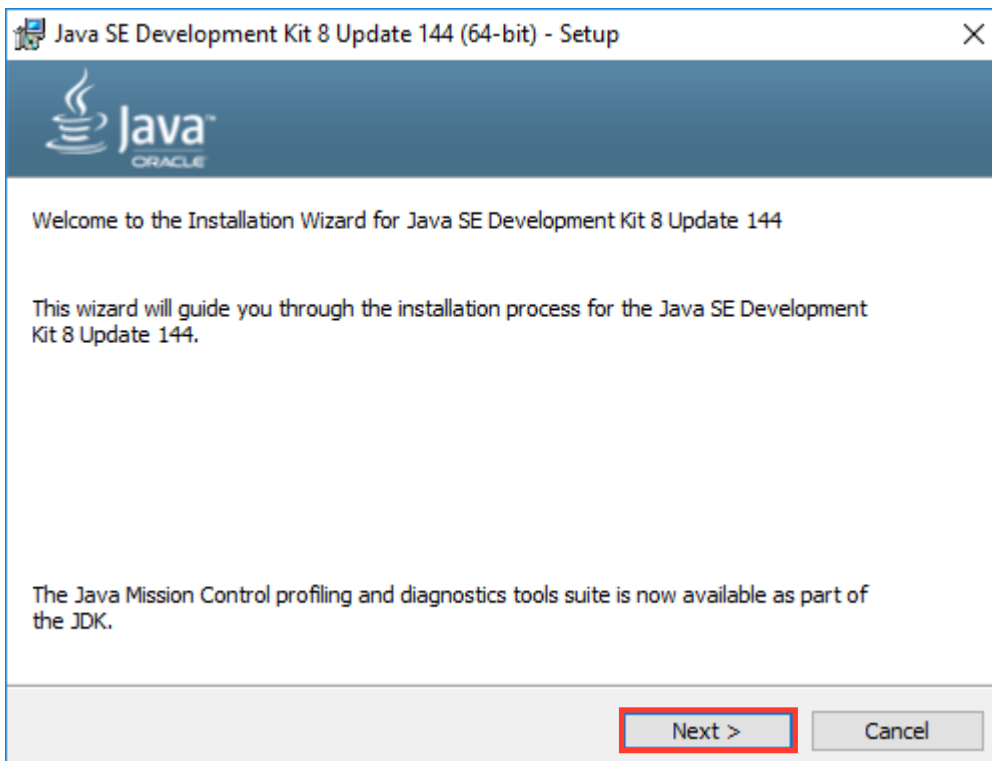
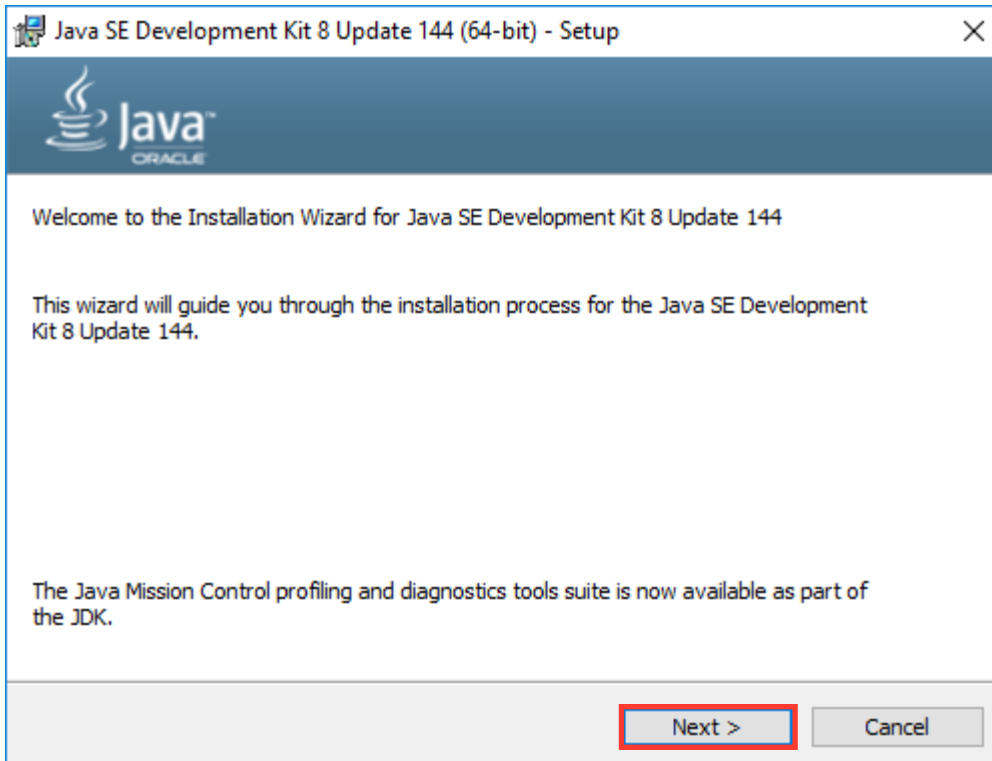
JDK 8u144 checksum

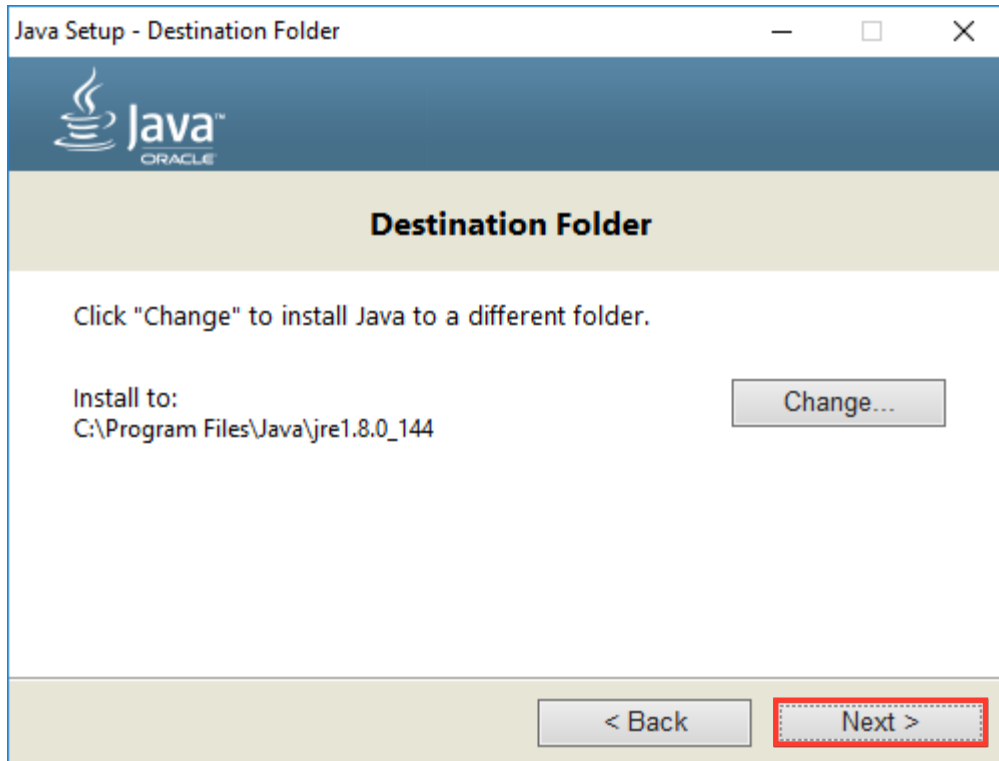
Java SE Development Kit 8u144

You must accept the [Oracle Binary Code License Agreement for Java SE](#) to download this software.

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Product / File Description	File Size	Download
Linux ARM 32 Hard Float ABI	77.89 MB	jdk-8u144-linux-arm32-vfp-hflt.tar.gz
Linux ARM 64 Hard Float ABI	74.83 MB	jdk-8u144-linux-arm64-vfp-hflt.tar.gz
Linux x86	164.65 MB	jdk-8u144-linux-i586.rpm
Linux x86	179.44 MB	jdk-8u144-linux-i586.tar.gz
Linux x64	162.1 MB	jdk-8u144-linux-x64.rpm
Linux x64	176.92 MB	jdk-8u144-linux-x64.tar.gz
Mac OS X	226.6 MB	jdk-8u144-macosx-x64.dmg
Solaris SPARC 64-bit	139.87 MB	jdk-8u144-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	99.18 MB	jdk-8u144-solaris-sparcv9.tar.gz
Solaris x64	140.51 MB	jdk-8u144-solaris-x64.tar.Z
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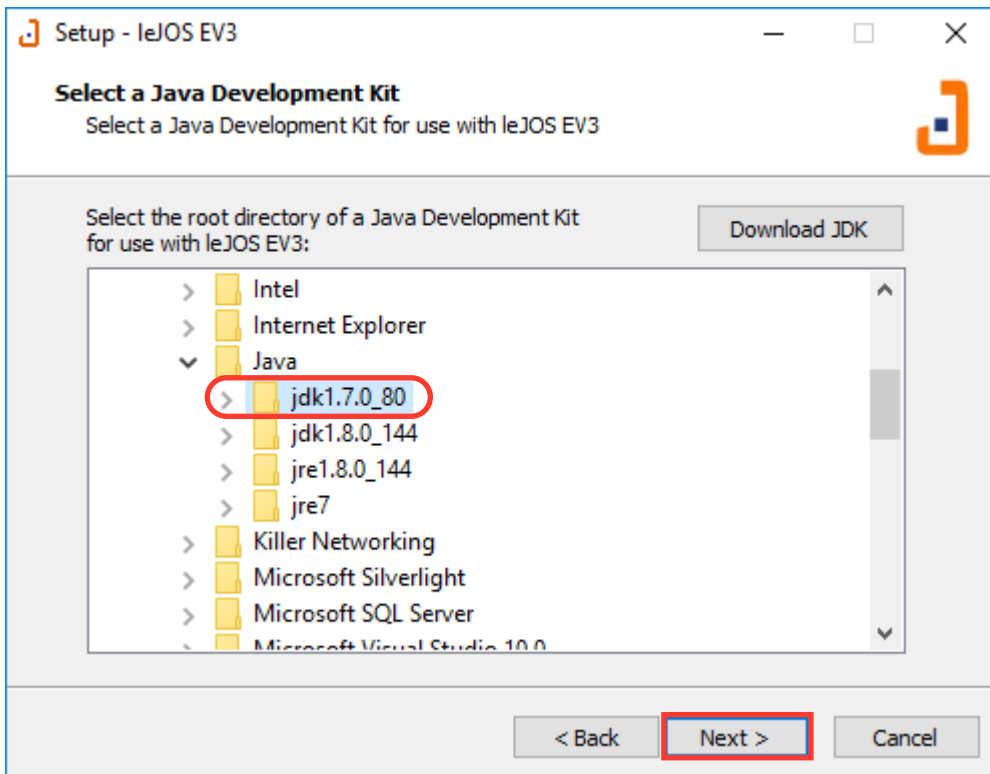
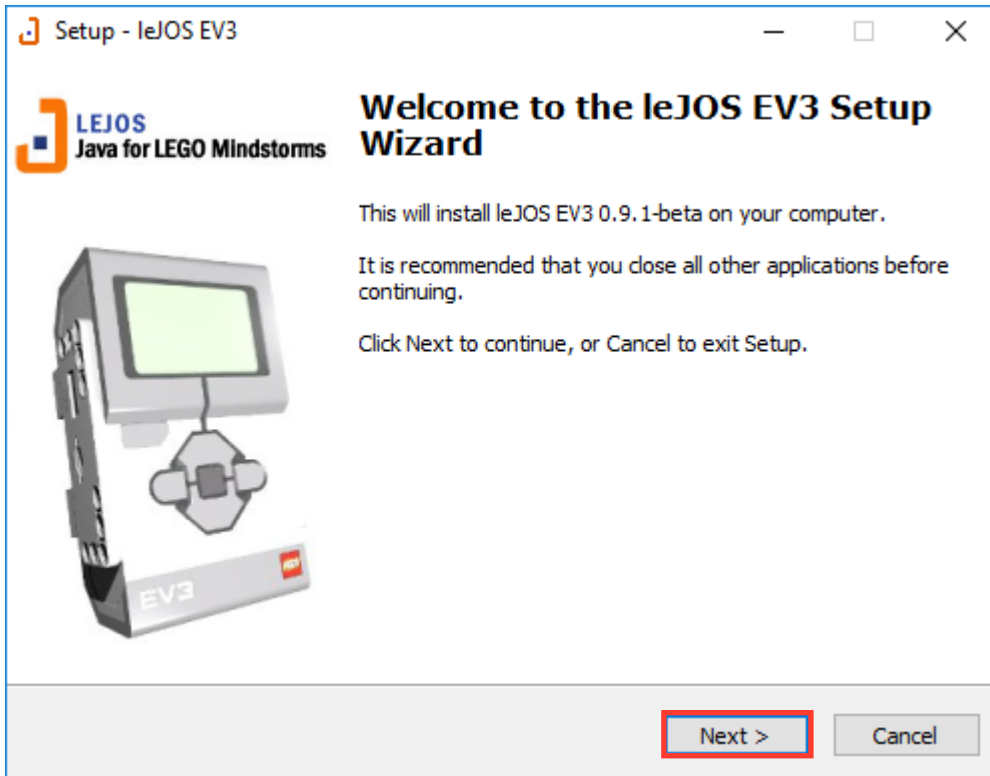


3. Install LeJOS

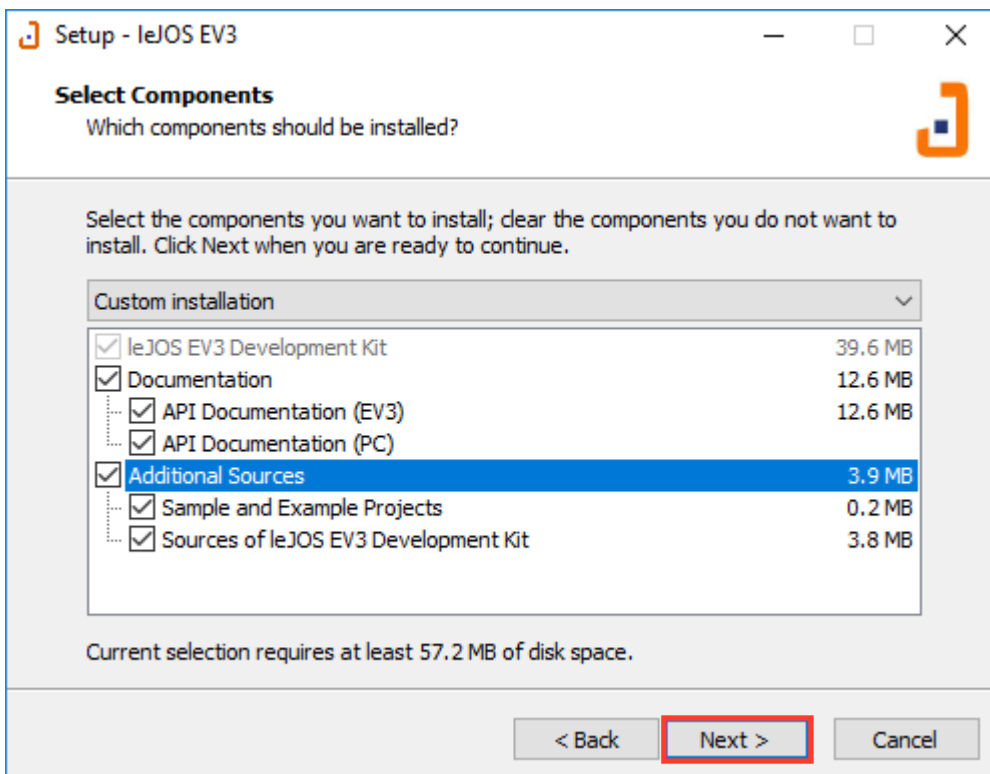
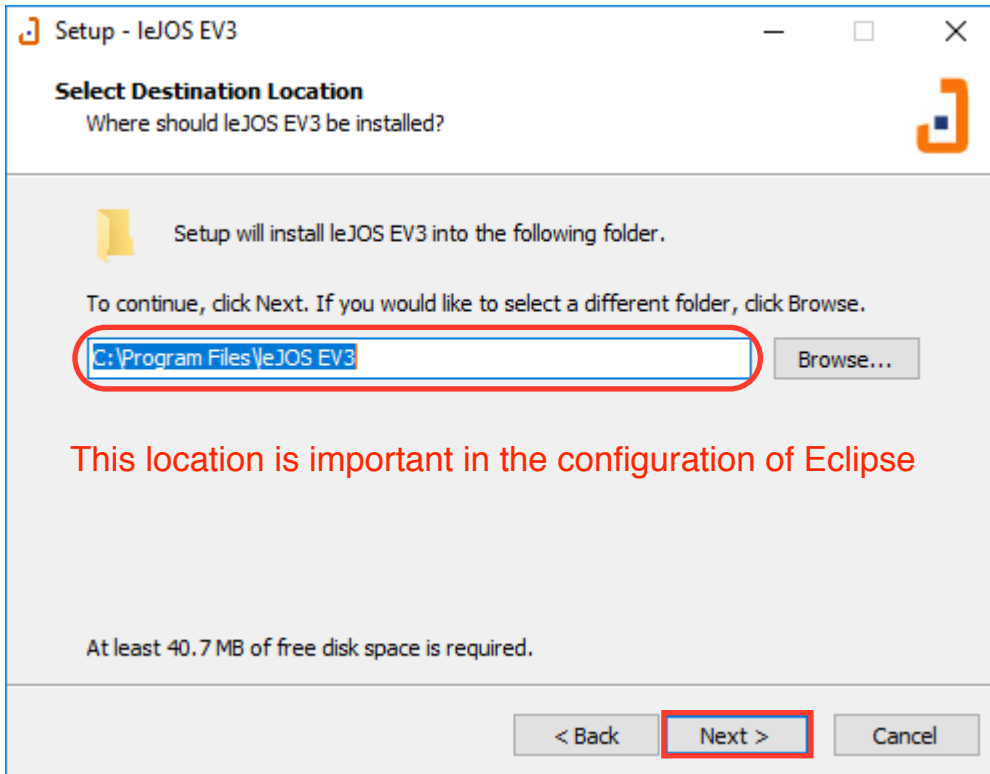
The heart of any EV3 Java project is LeJOS. Let's install it on your computer

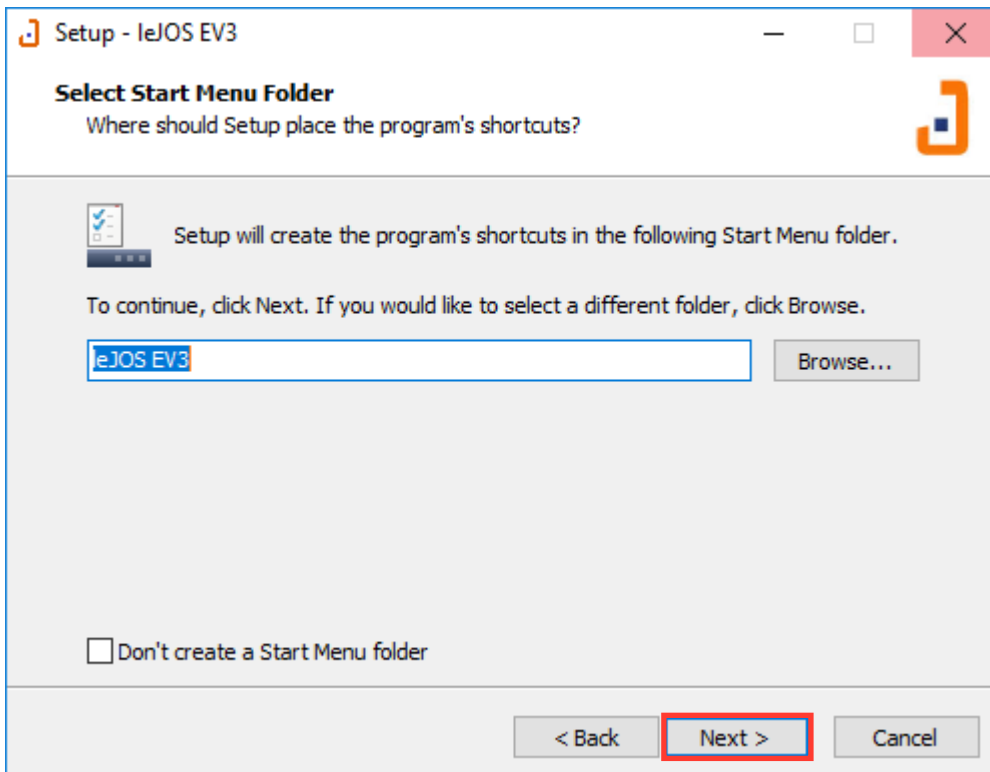
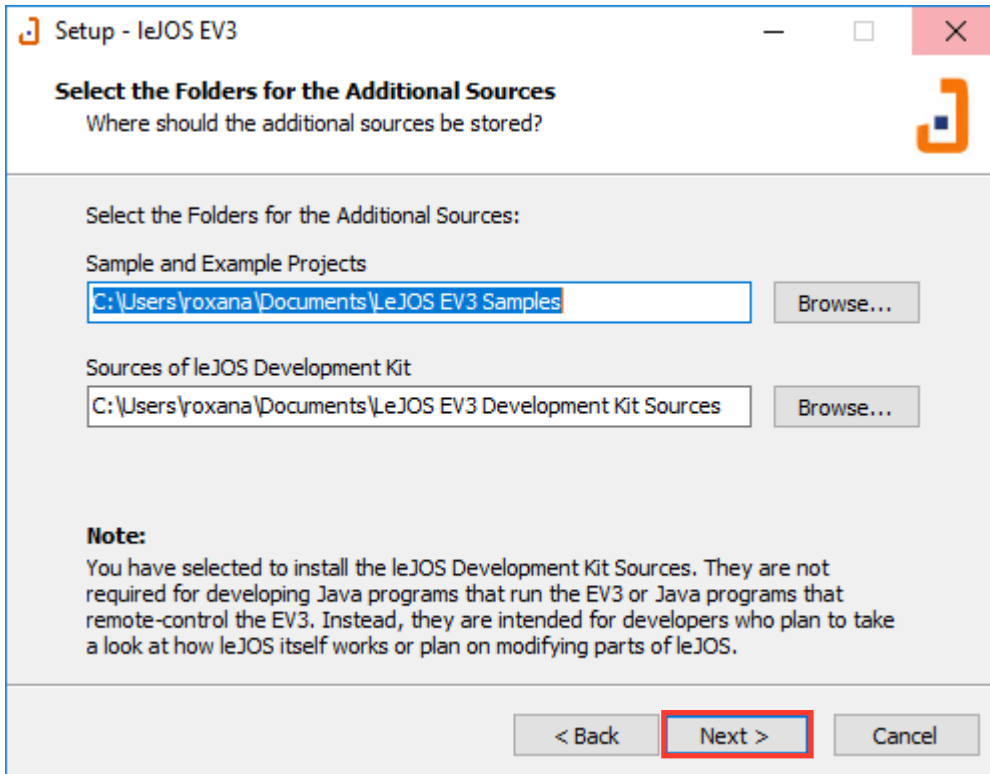
3.1 Download LeJOS

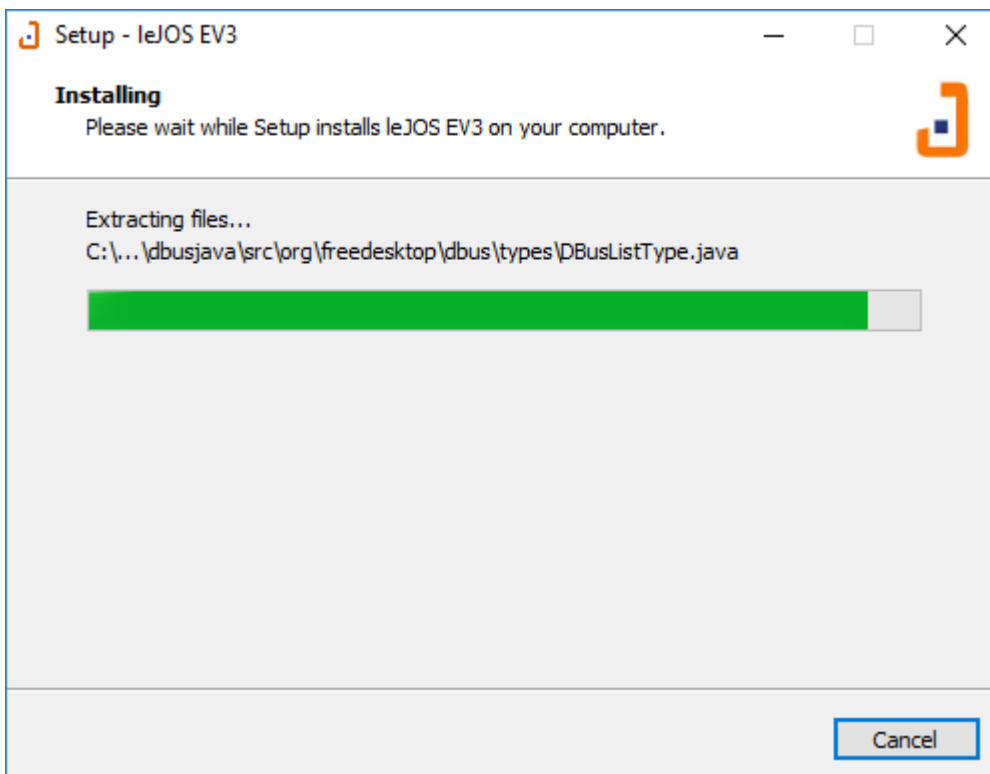
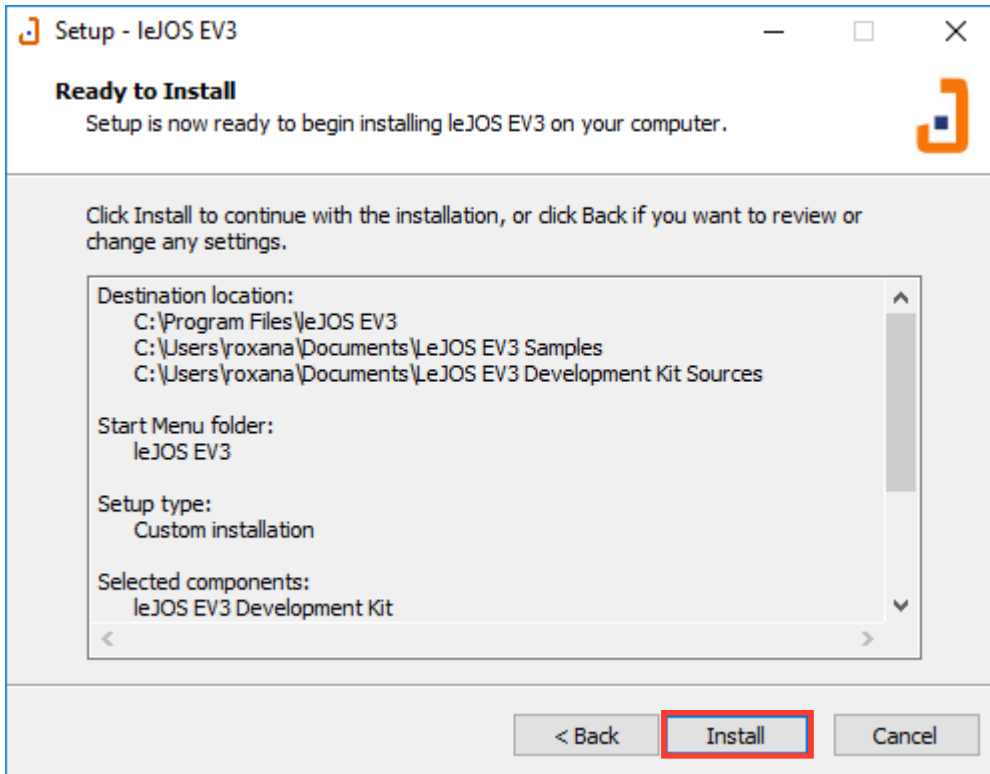
Visit <https://sourceforge.net/projects/ev3.lejos.p/files/> to download the latest version of LeJOS. Once the download is complete run the file.

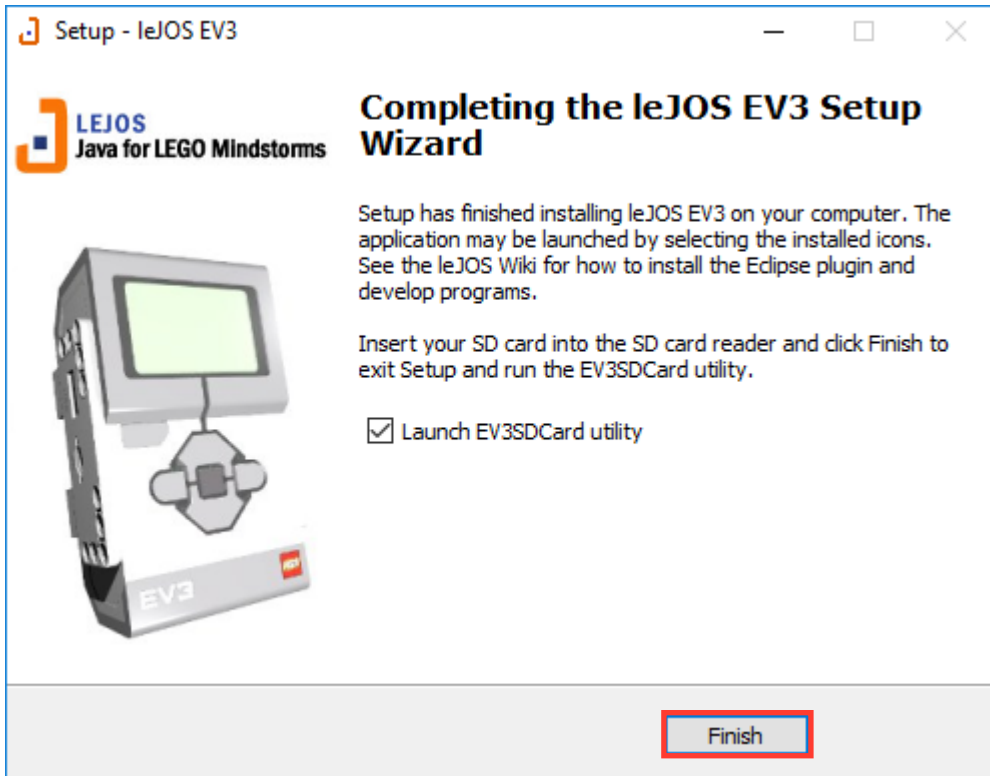


Chose JDK 1.7 as the development kit for leJOS EV3, as it is the recommended version for this release.







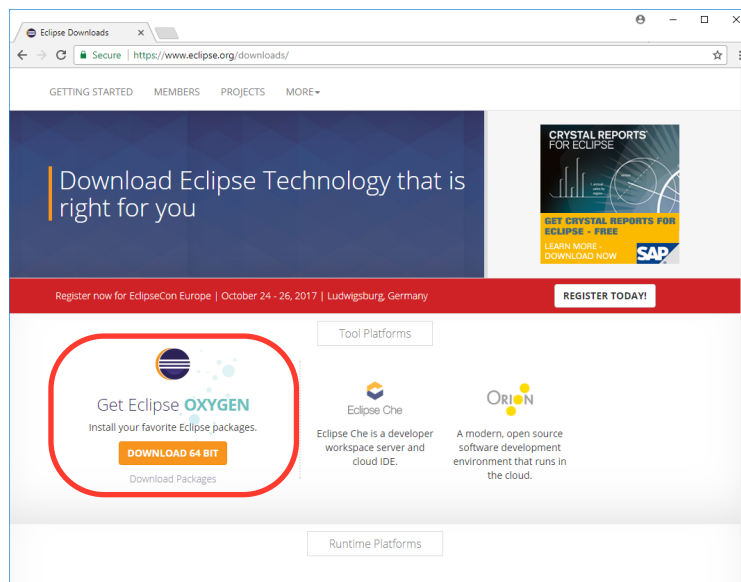


4. Install Eclipse IDE

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



eclipseinstaller by Oomph

Search

- 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
- 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.
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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.

Installation Folder

- create start menu entry
- create desktop shortcut

INSTALL

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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.

Installation Folder C:\Users\roxana\eclipse\java-oxygen

- create start menu entry
- create desktop shortcut

INSTALLING
Cancel Installation

BACK

Installation completed successfully.



Eclipse IDE for Java Developers

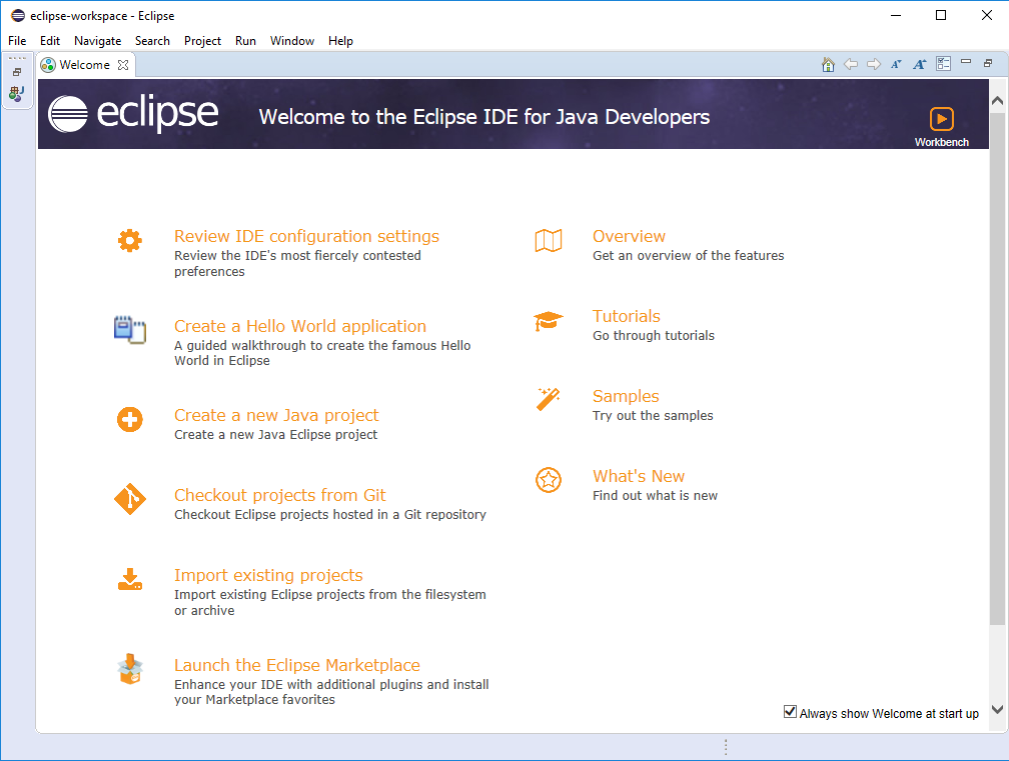
The essential tools for any Java developer, including a Java IDE, a Git client, XML Editor, Mylyn, Maven and Gradle integration.

Installation Folder C:\Users\roxana\eclipse\java-oxygen

- create start menu entry
- create desktop shortcut

LAUNCH
show readme file
open in system explorer
keep installer

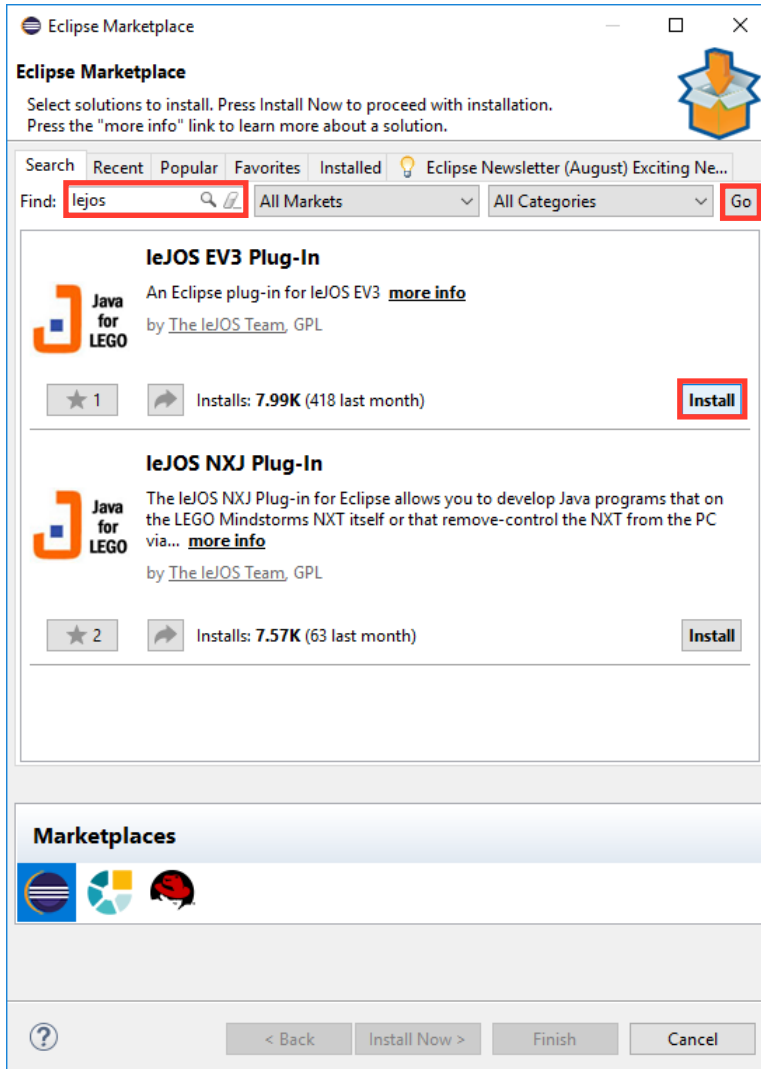
BACK



5. Configure Eclipse

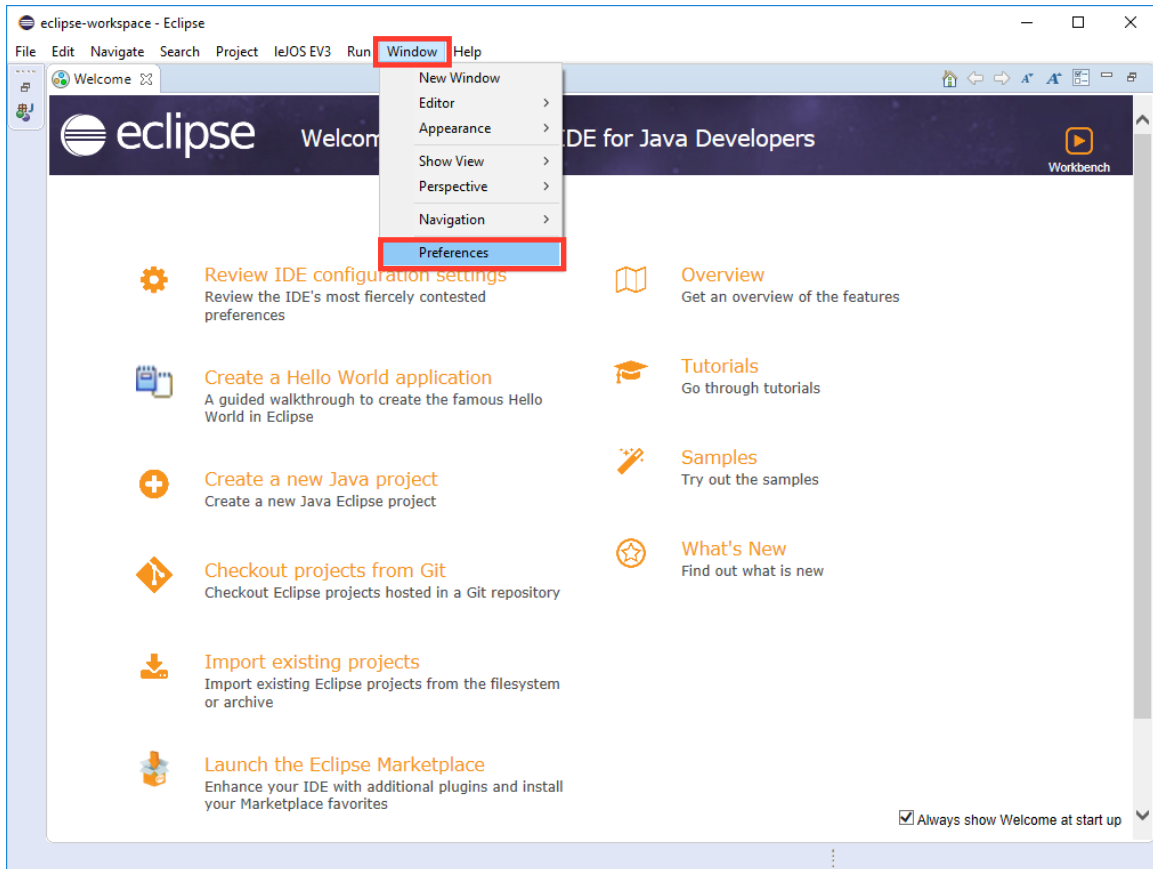
You will find the Eclipse Marketplace in the Help Menu.

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.

