

EV3: Getting started with Eclipse and Maven for Linux and Windows

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1 Introduction

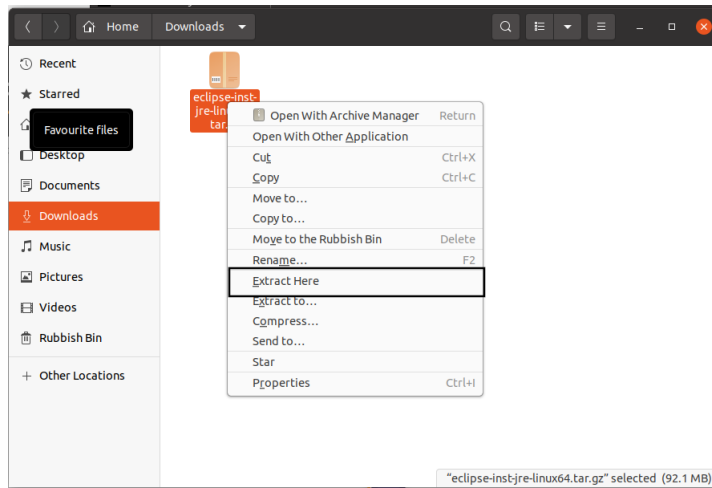
This tutorial is a guide to getting started with developing software for the EV3 Brick using Eclipse and Maven ¹.

If you are using your personal machine, please follow the steps to install Eclipse for your relevant OS as well as the Maven Plugin for Eclipse.

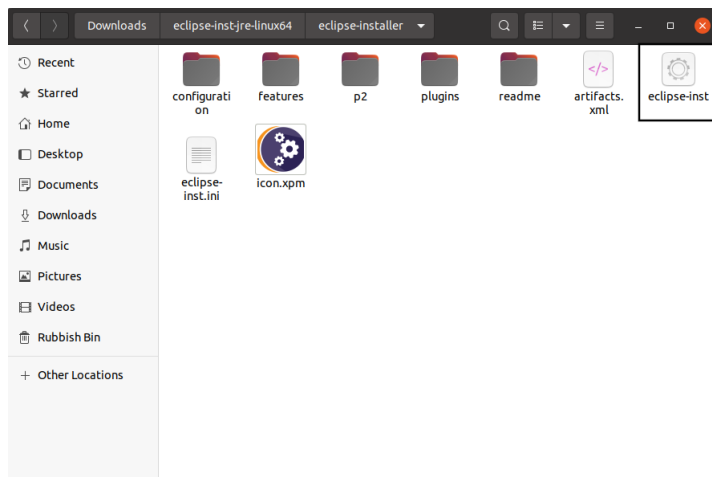
If you are using NoMachine, Eclipse should already be installed on your machine and only the Maven Plugin installation section needs to be followed.

2 Installing Eclipse on Linux

1. Firstly, download Eclipse from here.
2. Save the .tar.gz² file in a convenient location
3. Navigate to the location where it is saved and extract the contents of the folder. Select *Extract Here* to extract the folder into the current location.



4. Navigate to the eclipse-installer folder and run the *eclipse-inst* by double clicking it.



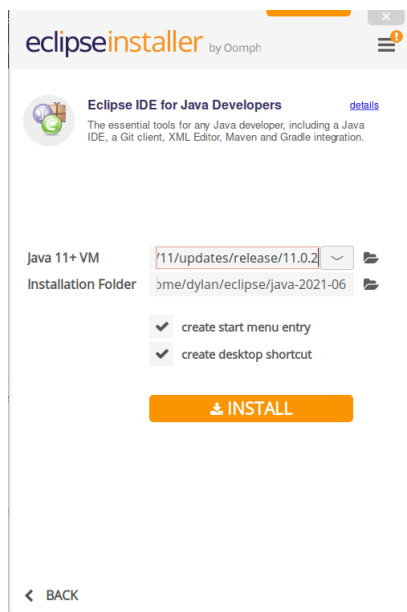
5. You will be prompted to select which version of Eclipse you want to install. Select *Eclipse IDE for Java Developers*

¹A build tool that automates the process of deploying code to your brick

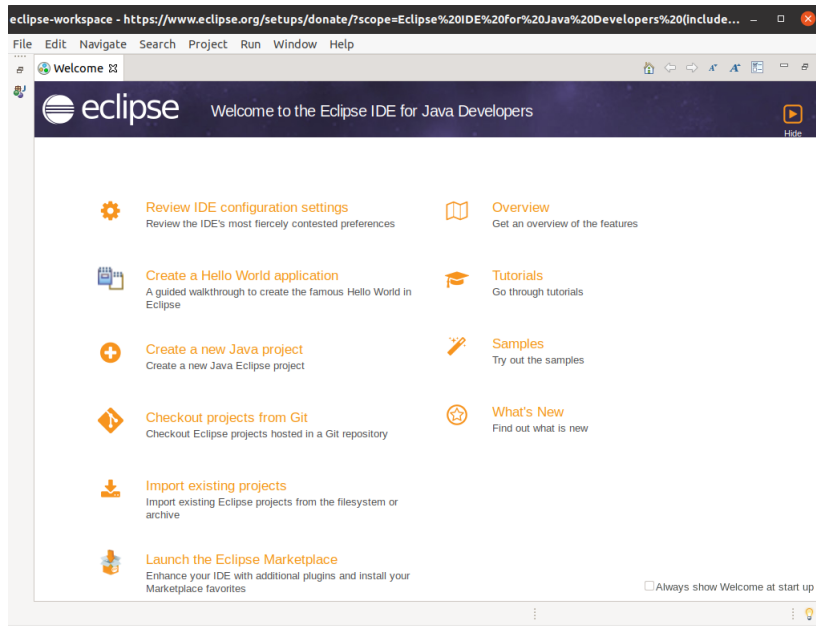
²These are similar to .zip files



- The Eclipse installer will prompt you to enter a JRE version. We will be using Version 11, so selecting any version 11+ is sufficient.

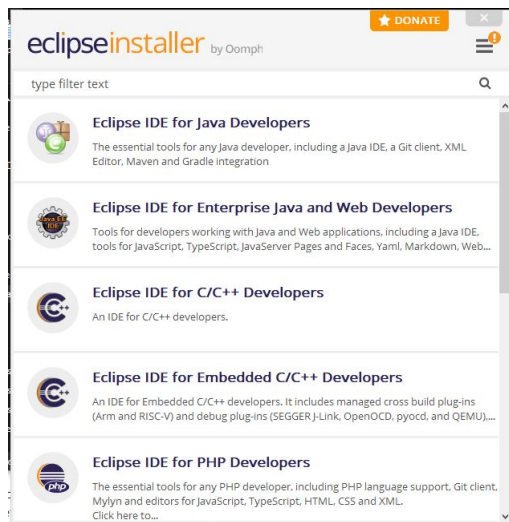


- Once Eclipse is installed it can be launched. Select a workspace location (a directory where Eclipse will save all projects) and continue.
- If the below screen appears, Eclipse is successfully installed. Move to section 4.

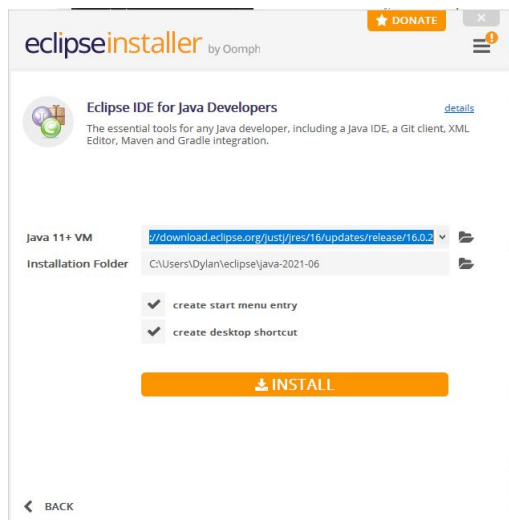


3 Installing Eclipse on Windows

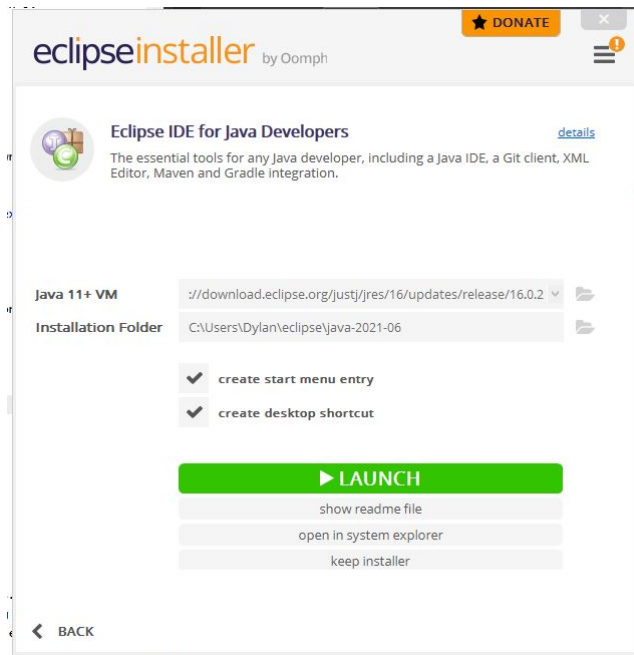
1. Firstly, download the Eclipse Installer from [here](#)
2. Save the .exe file in a convenient location
3. Navigate to where it is saved and run the the .exe by double clicking it.
4. You will be prompted to select which version of Eclipse to install. Select **Eclipse IDE for Java Developers**.



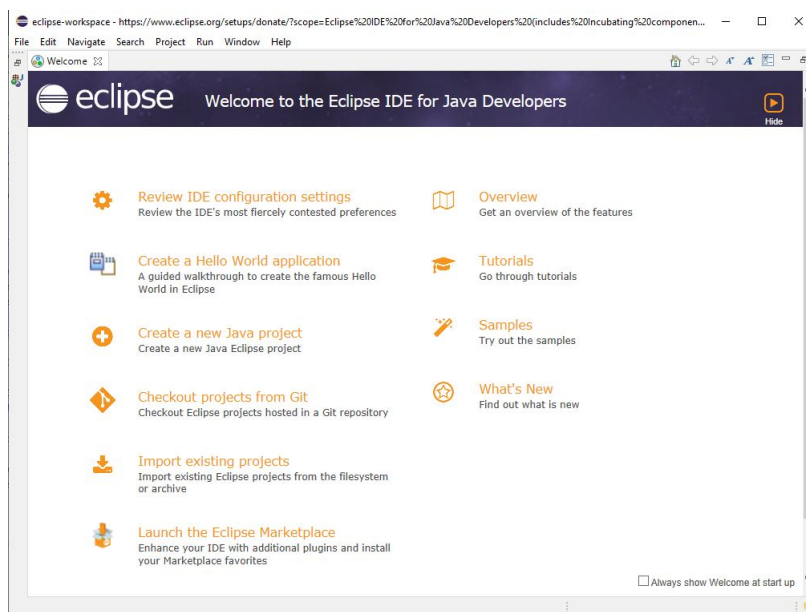
5. We will be using Java Version 11, make sure the VM version selected is 11 or above. The installation folder can be left as it is or another location chosen.



6. Click **Install** and accept the License Agreement
7. Once Eclipse is installed, the installer window should show a green **Launch** button. Click it to launch Eclipse.



8. You will be prompted to select your workspace location. This can be left as is or changed - it is the location that your project will be saved.
9. If the screen demonstrated below is visible, Eclipse has been successfully installed.

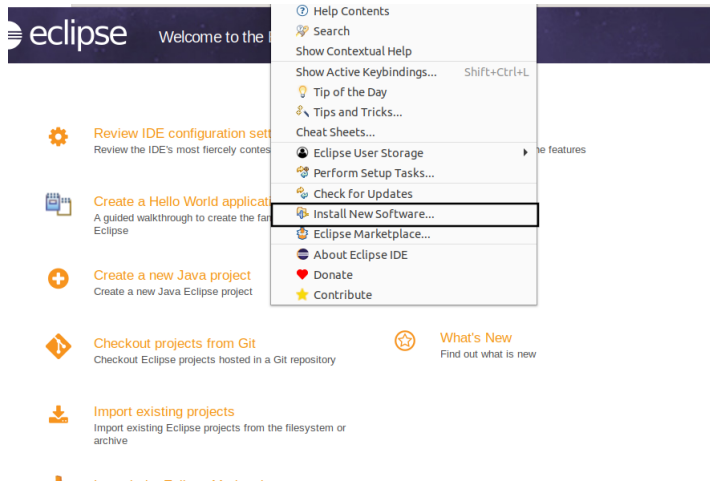


10. Move to section 4.

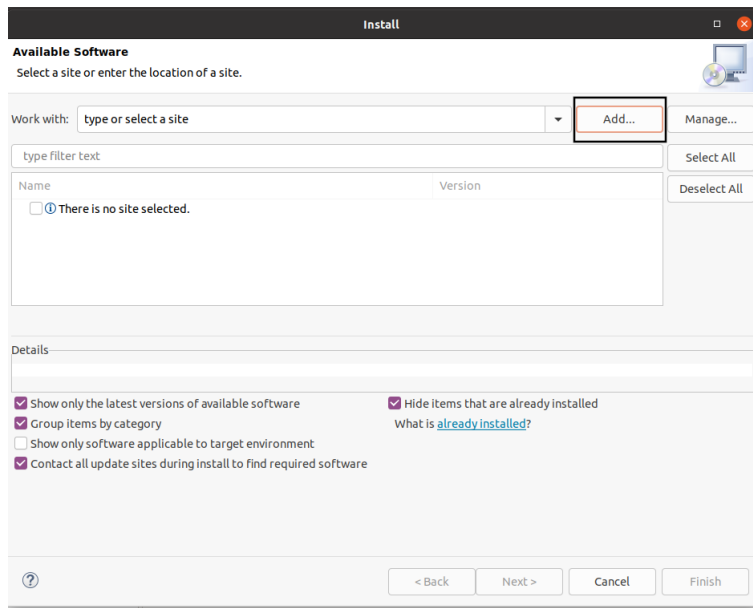
4 Installing Maven Plugin for Eclipse

Maven is an automation tool that can be used to build, manage and maintain Java projects. You can read more about it [here](#). We will be using Maven to simplify the process of writing, compiling and deploying code the EV3 Brick. Maven can be installed as a Plugin for Eclipse by following the below steps:

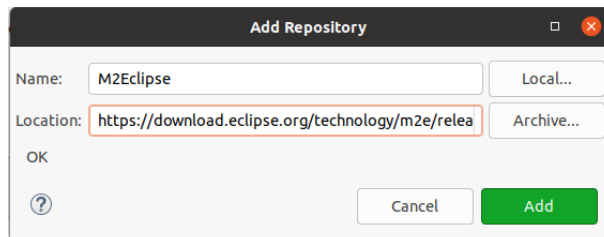
1. Once Eclipse is installed, click Help > Install New Software ...



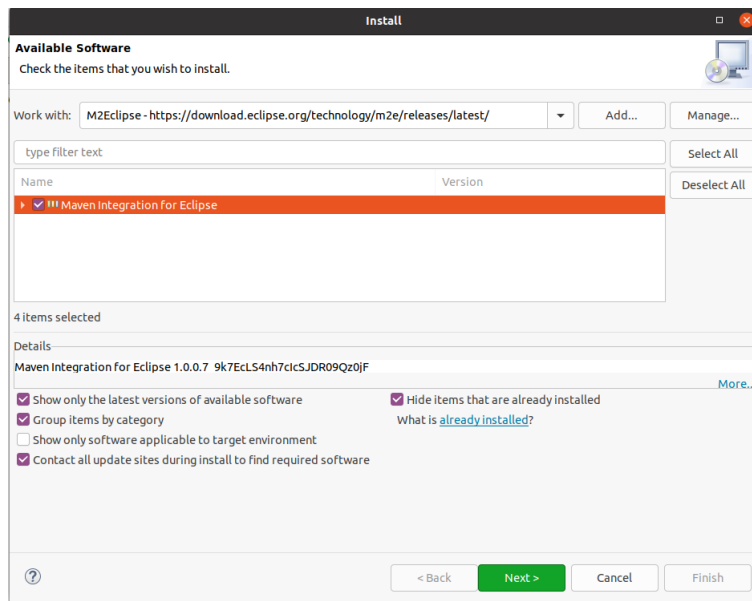
2. Click *Add ...* near the top right of the window



3. In the window that follows, enter *M2Eclipse* into the **Name** box and <https://download.eclipse.org/technology/m2e/releases/latest/> into the **Location** box.



4. Check the *Maven Integration for Eclipse* box, click Next to confirm what packages will be installed³ and accept the licence agreement to finish the install. You are now ready to start creating a Maven Project. See section 5.

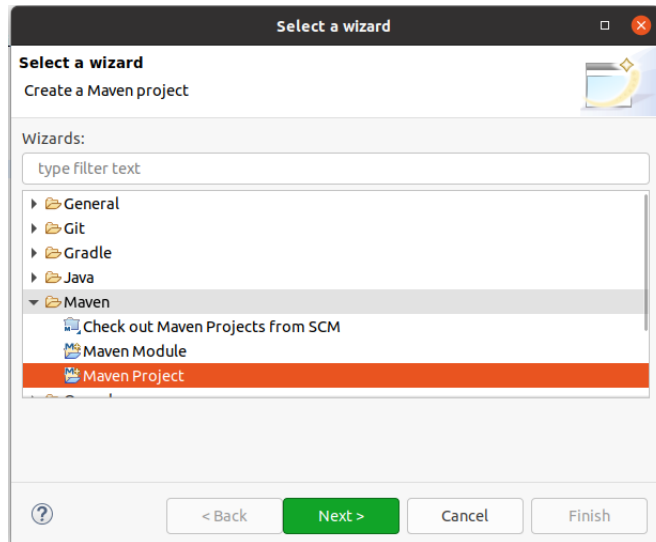


³There may be an error as some packages are already installed - this is okay!

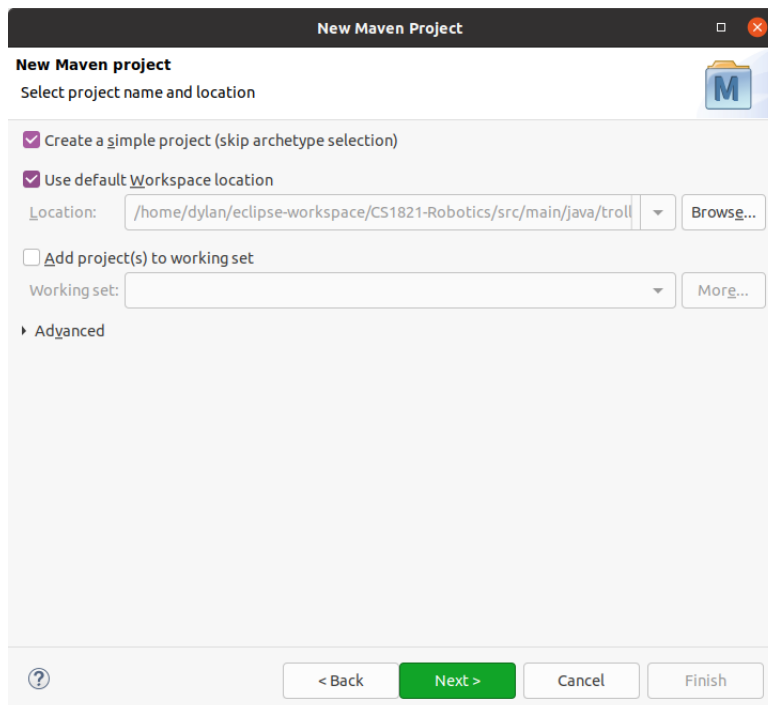
5 Creating a Maven Project

Once the Maven Plugin is installed, it is possible to create a Maven Project using Eclipse. Maven takes some time to setup but speeds up the process of deploying and running code on your EV3.

1. To get started, in Eclipse, click File > New > Other...
2. Scroll to Maven, expand the dropdown arrow and select Maven Project, click **Next**



3. Check *Create a simple project* and *Use default Workspace location*, click **Next**



4. In the next window, enter the details for the project as shown below. Replace *surname* with your own surname, e.g **smith.robotics**.

New Maven Project
Configure project

Artifact

Group Id:

Artifact Id:

Version:

Packaging:

Name:

Description:

Parent Project

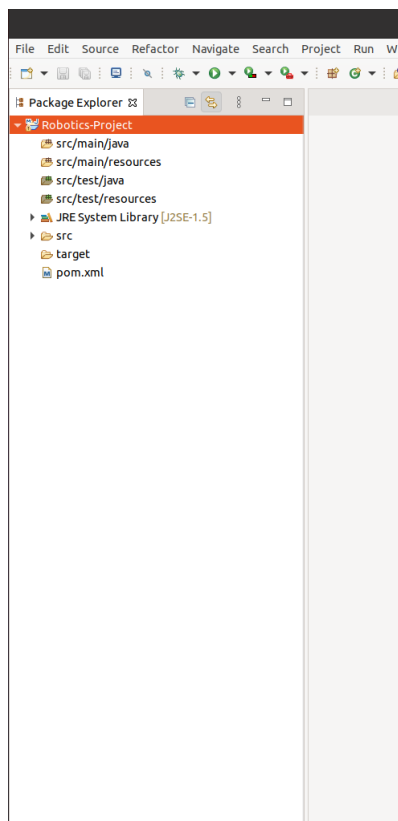
Group Id:

Artifact Id:

Version:

Advanced

- The Eclipse Maven Project should now be created, showing in your Project Explorer window



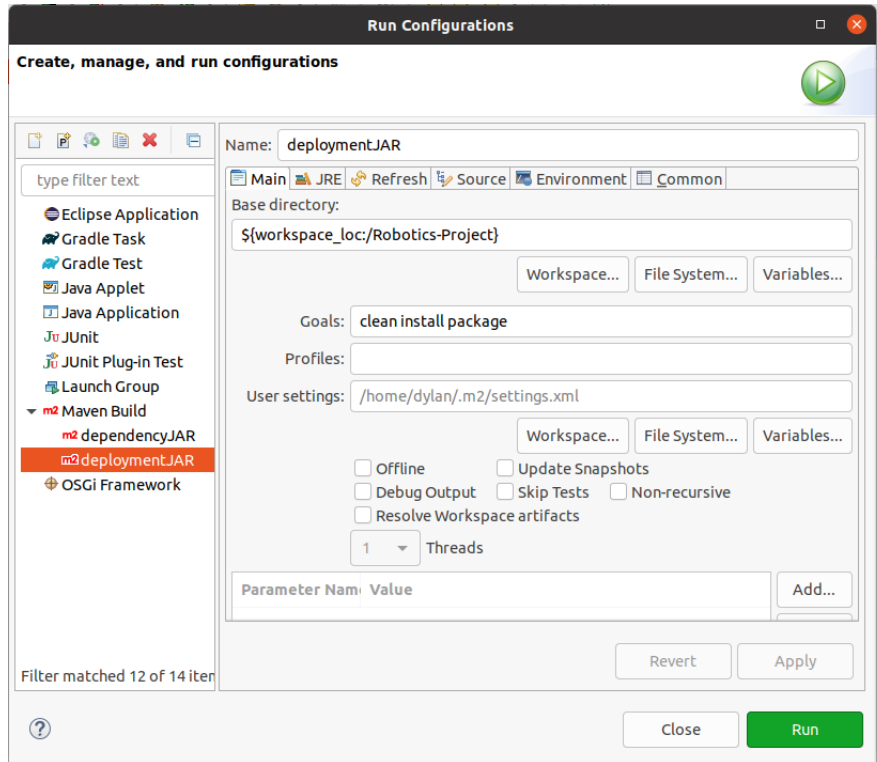
- Open the **pom.xml** and delete the contents of the file. Copy and paste the contents of the provided pom.xml into the same window.

7. Edit lines 7-9 so that they match the details you entered in step 4.
8. Right Click the Project (**Robotics-Project**) and choose Maven > Update Project...
9. Select **Robotics-Project** and Click OK.

6 Configuring your Maven Project

Before writing any code, a Run Configuration needs to be setup to simplify deploying code to the EV3 Brick.

1. Right Click **Robotics-Project** > Run As > Run Configurations...
2. In the sidebar, right click **Maven Build** and select **New Configuration**



3. Enter a Name for the Configuration, here it is called *deploymentJAR*.
4. For Base Directory, select **Workspace...** and select **Robotics-Project**. Click **OK**
5. **NB!!:** In Goals, enter **clean install package** exactly as it is shown. Click **Apply**.

- When you are ready to compile your code, Click the dropdown next to the Green Play icon, and then select **deploymentJAR**. This will compile your code and create the .class file used to run your code.

