

Figure 1: The workspace after you have imported Tick 3.

Getting Started

Compiling and Running Tick 3

1 Introduction

This document explains how to get started with Tick 3. This is a bit trickier than with Ticks 1 and 2, but if you follow these instructions Eclipse should set up most of the project automatically.

There are two important steps that must be done:

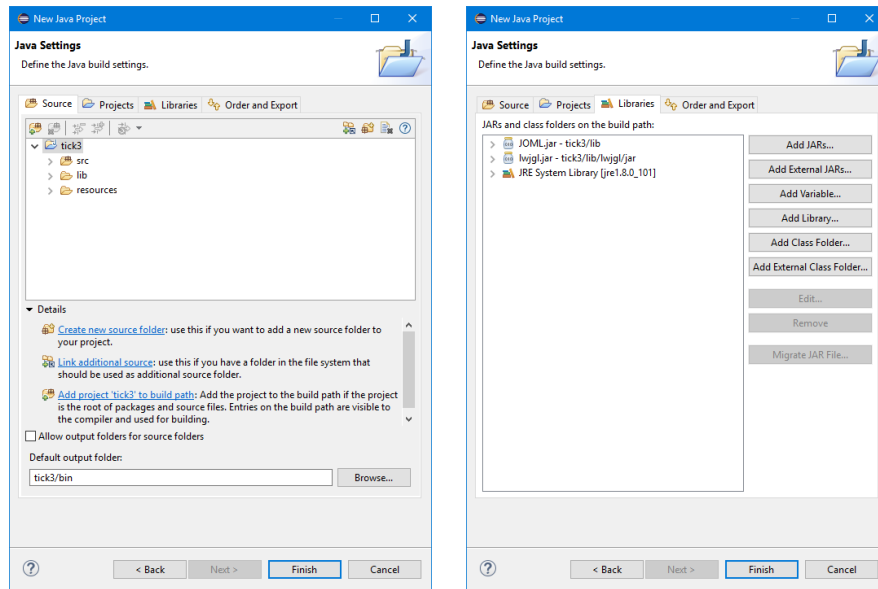
- The libraries JOML.jar and lwjgl.jar should be added to the build path. Eclipse should do this automatically when importing the project.
- The path to the LWJGL native libraries should be added to the VM options. You will do this yourself by modifying the run configuration.

1.1 Downloading and extracting source files

Download `tick3.zip` from Moodle, and extract the files. You should end up with a directory structure like so:

```
tick3                                     Set your project's "Location" to this directory
├── lib
├── resources
└── src
```

The directory you should use as the project's Location has been indicated.



(a) The Tick 3 Java Settings.

(b) Tick 3 Libraries.

Figure 2: You will import the project in a similar way to Ticks 1 and 2. This time, check that the Tick 3 libraries have been added to the build path.

2 Importing Tick 3

The process for importing Tick 3 is similar to Ticks 1 and 2. The first five steps are the same, but there are a few extra things you should check in the Java Settings page (see Figure 2):

1. Select **File** → **New** → **Java Project** from the application menu.
2. For “Project name”, enter “tick3”.
3. Untick “use default location”.
4. For “Location”, click “Browse...” and navigate to the root directory `tick3`.
5. Click “Next” at the bottom of the dialog box.
6. Check that the additional directories are present in the Java Settings dialog: `resources` and `lib` (libraries).
7. Click the **Libraries** tab and check that `JOML.jar` and `lwjgl.jar` have both been added to the build path.
8. If everything looks okay, click “Finish” to exit the dialog.

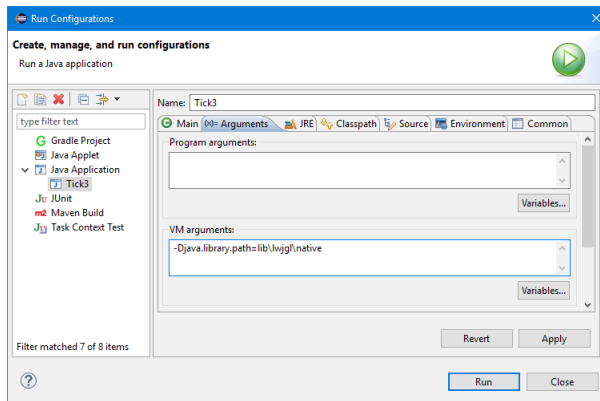


Figure 3: Make sure the VM arguments are set up correctly.

3 Running Tick 3

If you try to run Tick 3, you will get an error.

[LWJGL] Failed to load a library

This is because Java is not finding the native libraries it needs for OpenGL. To fix this, we must pass the `lib` folder to the JVM as an argument when we run the application:

1. Click `Run` → `Run configurations...` from the application menu. You should see a dialog box like the one in Figure 3.
2. Select `Java Application` → `Tick 3` from the panel on the left. If `Tick 3` does not exist, double click `Java Application` to automatically create it.
3. Click the `Arguments` tab in the panel on the right.
4. Enter `-Djava.library.path=lib\lwjgl\native` into the `VM arguments` box. Your application will now find the native libraries at runtime.

Now when you run the application you should see a black cube on a white background. You are now ready to start Tick 3.