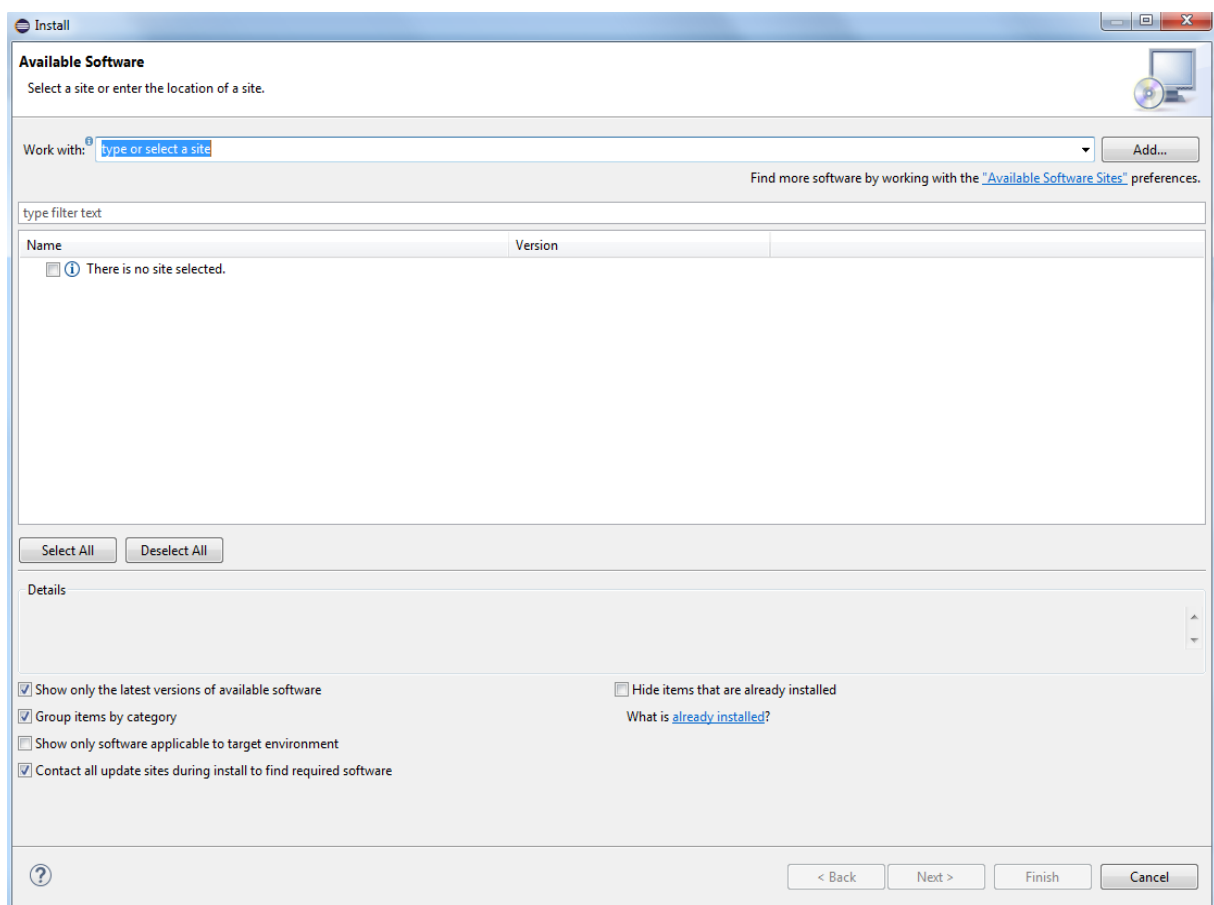# 1   Installing JaMu

You can install JaMu in two different ways. You only need to follow either 1.1 or 1.2 to successfully install JaMu.

1.1   Install new software wizard

Follow these steps to install JaMu via the install new software wizard Eclipse provides:

1. Open the JaMu update webpage (located here: http://jamudeveloper.github.io/).

2. Copy and paste the link corresponding with the desired version of JaMu.

3. In Eclipse, go to Help → Install New Software …. This opens a new window seen in figure 1.

4. Paste the link in the "Work with:" field. Now the JaMu category should be visible. Click the checkmark and press the Next button.

5. Eclipse shows an overview of all the plugins. Click Next again. The final window contains the license agreement. Accept it and click Finish.

6. If a warning pops up warning you about the unsigned content, click OK. Finally, Eclipse asks to be restarted. Click Yes.
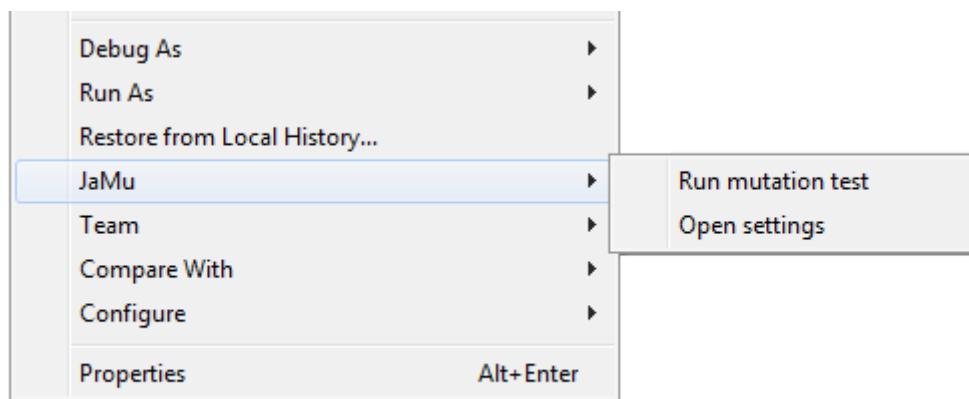
1.2   Manual install

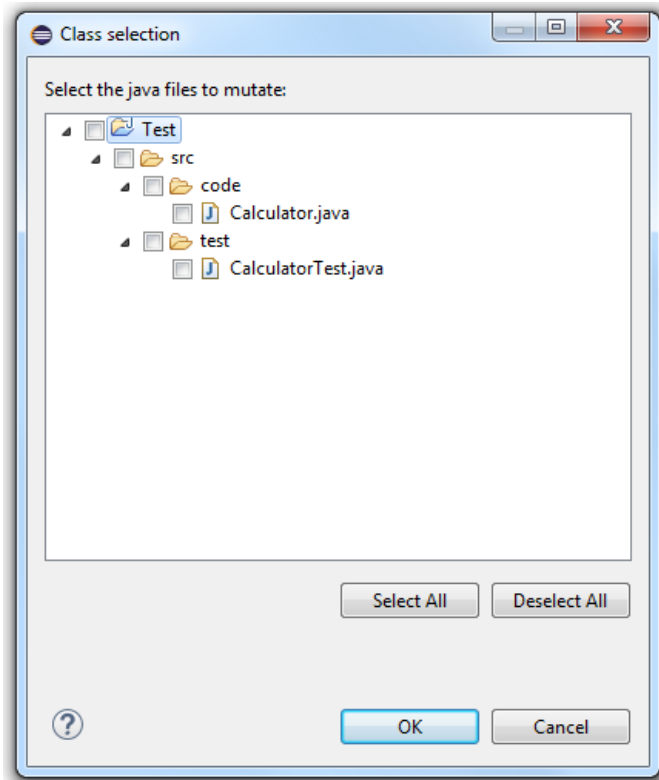Alternatively, JaMu can be installed manually. To do so follow these steps:

1. Open the JaMu github (located here: http://github.com/JaMuDeveloper/JaMu). If you are trying to install the Git version, switch to the Git branch then open the "JaMu Source Jars" folder.

2. Download the jar called JaMu_x.x.x, where the x.x.x represent the version number.

3. Copy or move the downloaded JaMu jar to the dropins folder. This folder is located in your Eclipse directory.

4. If the Eclipse application is currently open, close and restart it.
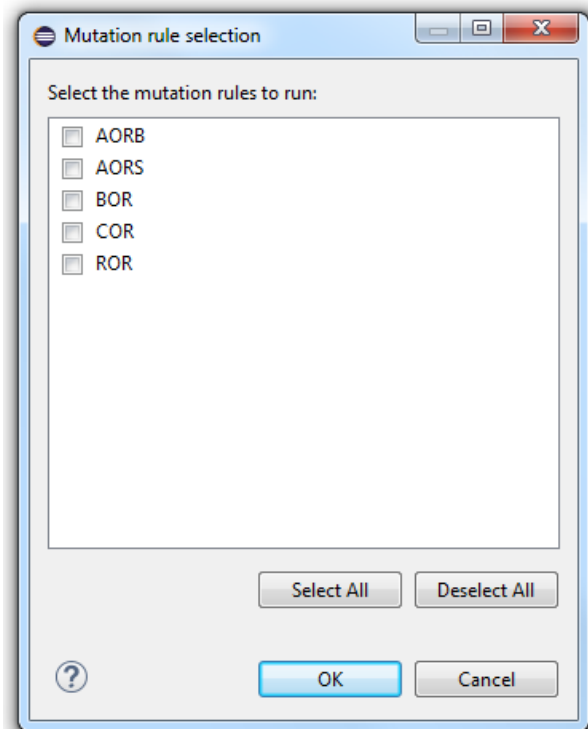
2   Running a mutation test

1. Select a Java file or a project, folder or package containing a Java file. A Java file is a file with the .java extension.

2. Right click this file and highlight the JaMu option. Choose the "Run mutation test" option in the sub menu.
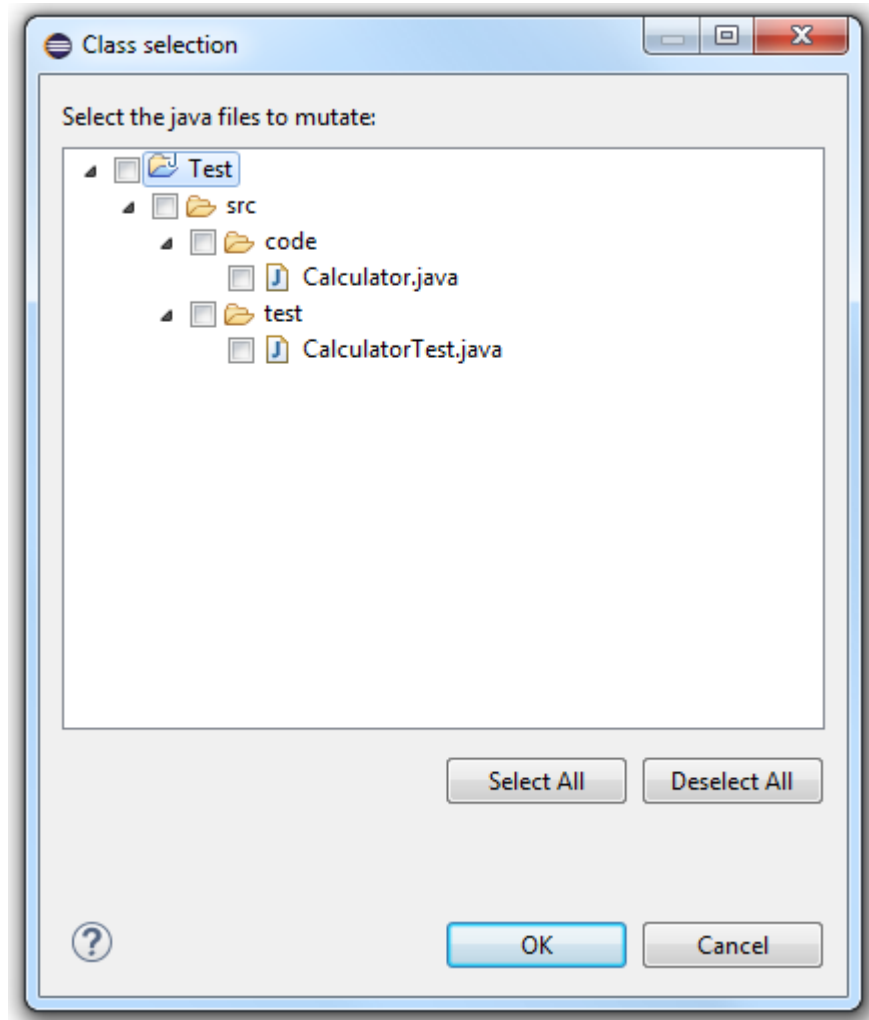
3. In the new window that opens, select the files that should be mutated and click OK.
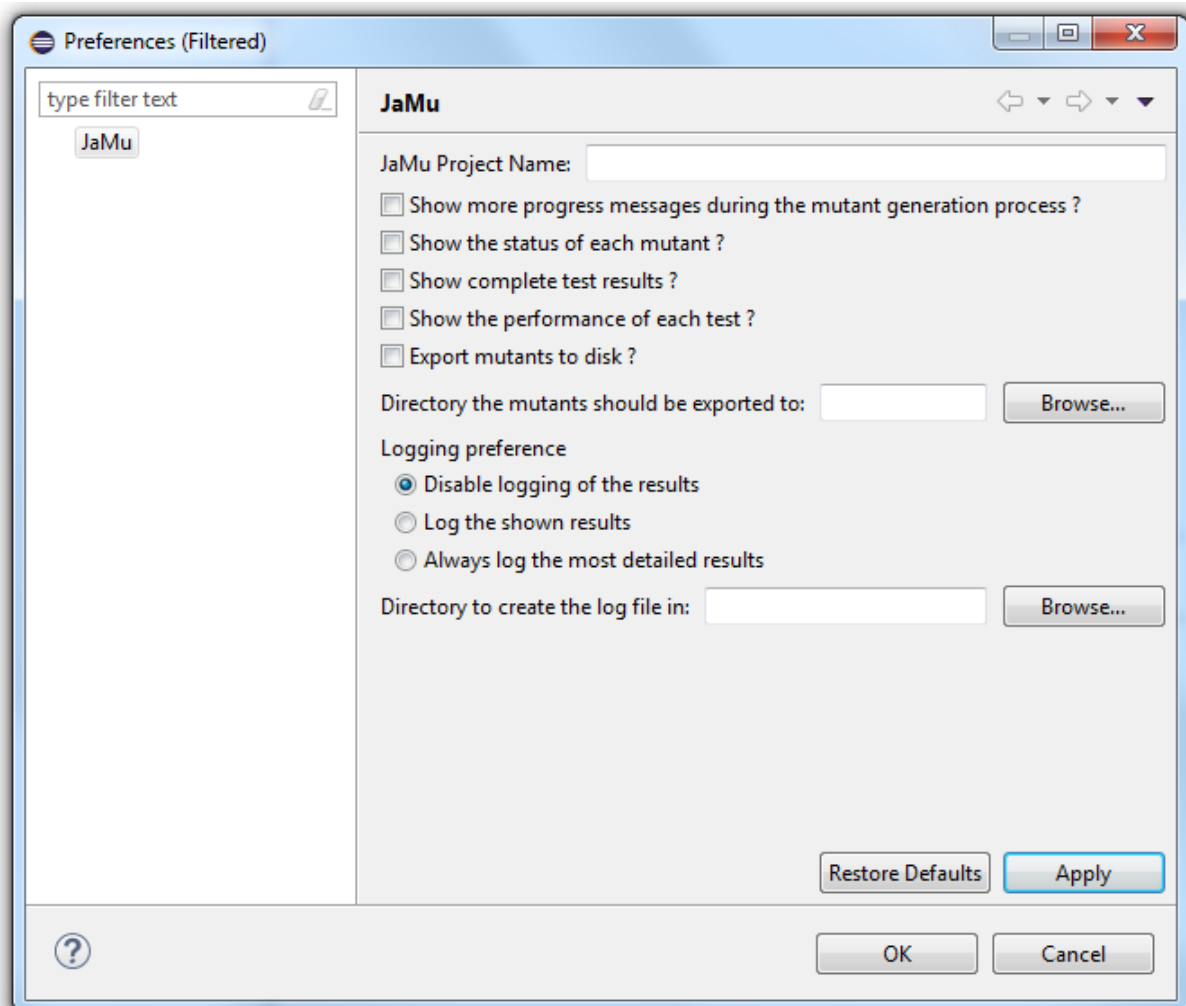

4. In the new window that opens, select the mutation rules to apply and click OK.

5. In the new window that opens, select the tests to use for mutation testing and click OK. The Eclipse console should immediately start showing output.

3   The options menu

JaMu Project Name:
   Required option. This is the name of the temporary project JaMu creates. This project is deleted when JaMu is done, so it is advised to not choose the name of an existing project.

Show more progress messages during the mutant generation process:
   Optional. If this is option disabled, JaMu only gives messages indicating when a file has been fully mutated. If this option is enabled, JaMu also gives messages that tell when JaMu starts mutating a new file and when a new mutation rule is being applied. JaMu also reports on how many mutants have been generated during the mutant generation process.

Show the status of each mutant:
   Optional. If this option is enabled, JaMu gives a list of all the mutants and indicates whether or not they have been killed.

Show complete test results:
   Optional. If this option is enabled, JaMu gives a list of test results for each mutant. For each mutant this list contains the amount of tests that have been run, the amount of tests that failed, the amount of tests ignored and the time it took to run the tests. Additionally, for each failed test as much information as is available is shown.

Show the performance of each test:
> *Optional.* If this option is enabled, JaMu gives a list of all the test cases and shows how many mutants the test case killed, as well as the mutation score of that individual test case.

Export mutants to disk:
> *Optional.* If this option is enabled, all the generated mutants will be written to disk.

Directory the mutants should be exported to:
> *Required if "Export mutants to disk" is enabled.* This option tells JaMu where the mutants should be stored. No new subdirectory will be made by JaMu.

Disable logging of the results:
> *Optional.* If logging preference is set to this option, JaMu will not write any of the given output to a log file.

Log the shown results:
> *Optional.* If logging preference is set to this option, JaMu will write the output visible in the console window to a log file.

Always log the most detailed results:
> *Optional.* If logging preference is set to this option, JaMu will write output to a log file as if the following checkboxes were enabled, regardless of console output: Show the status of each mutant, show complete test results and show the performance of each test.

Directory to create the log file in:
> *Required if logging preference is set to "Log the shown result" or "Always log the most detailed results.* This option tells JaMu where the log file should be stored. No new subdirectory will be made by JaMu.