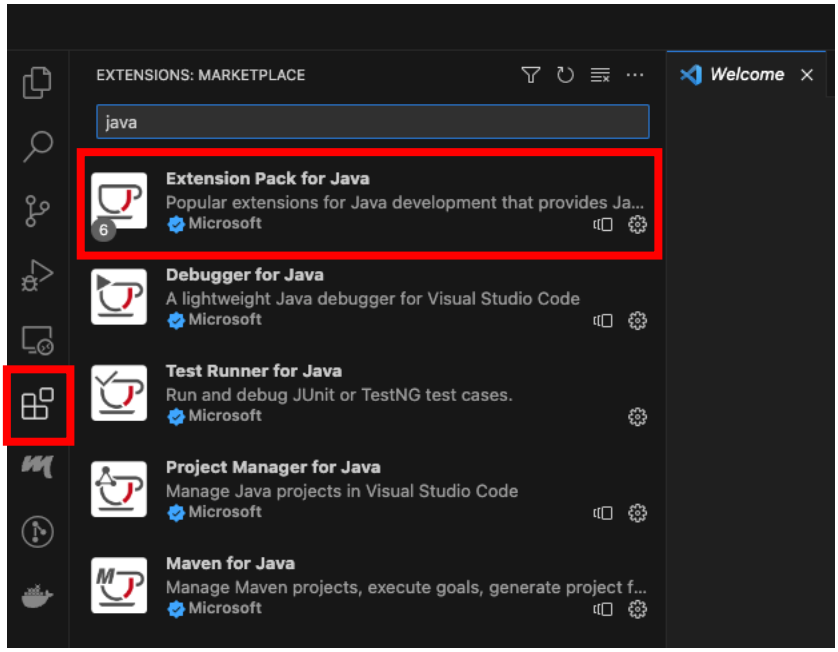
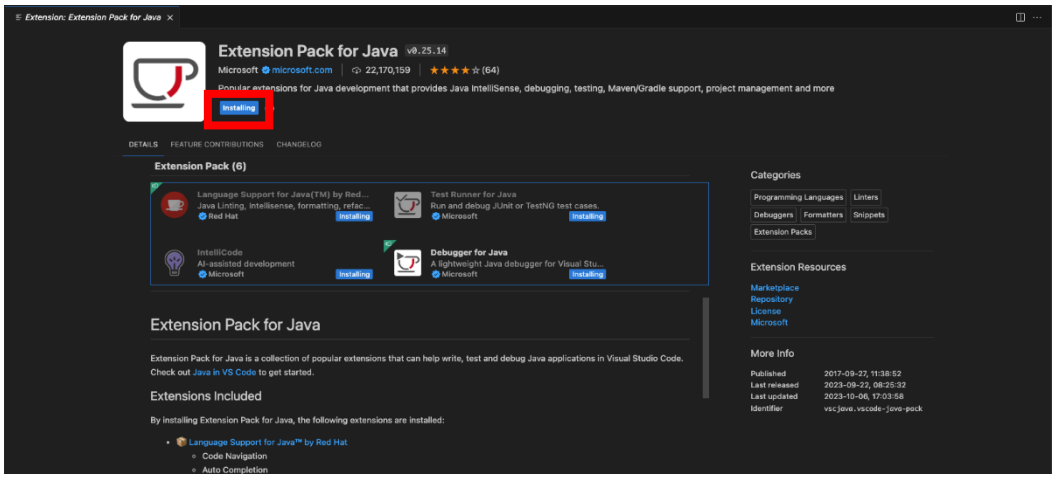
How to Compile your Java Application using VSCode, export the Jar and run on the cluster

Verify Java Extension for VSCode

1. Open VSCode
2. Go under Extension tab and check whether “Extension Pack for Java” is installed

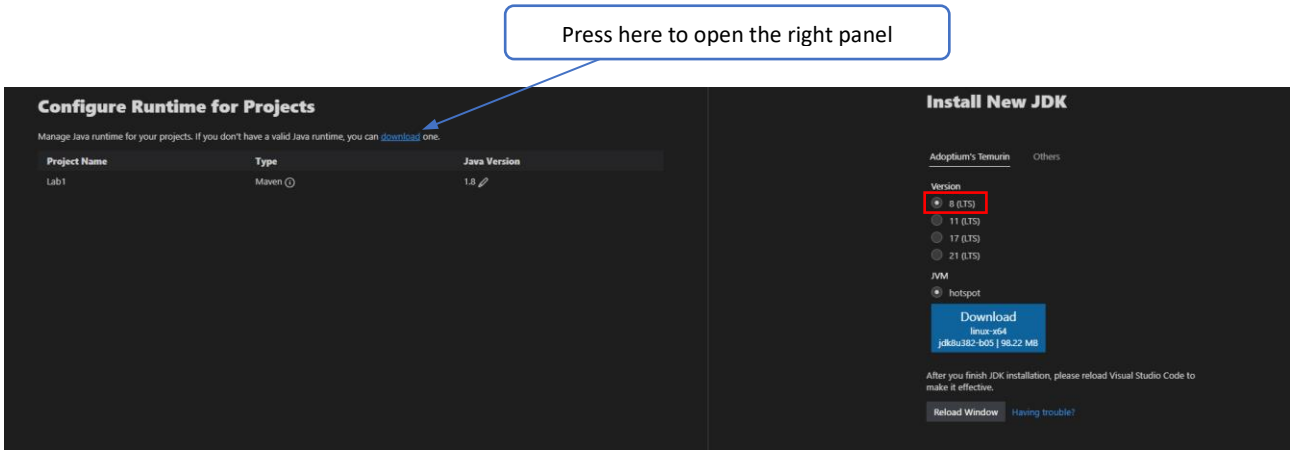


3. If not installed, you can click on the “Install” button in the page associated to the extension.

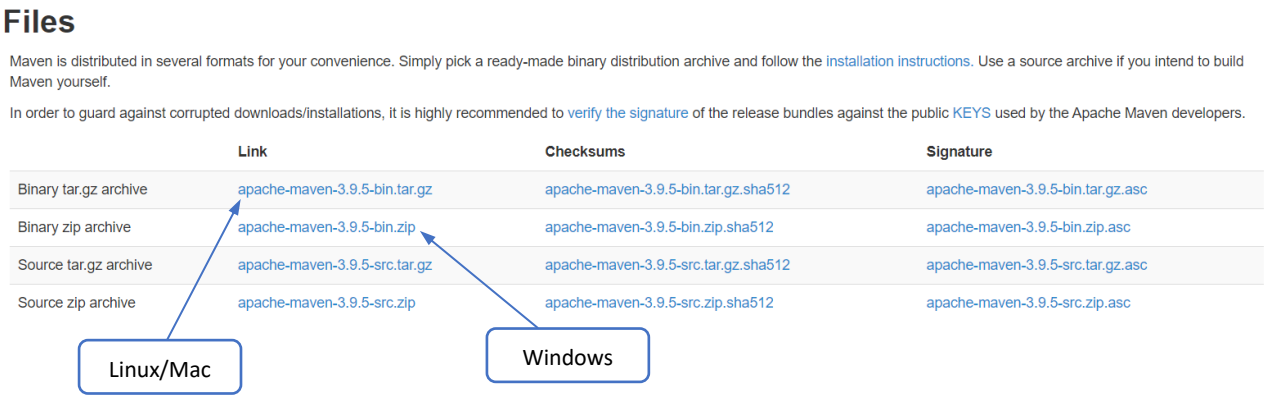


Install JDK and Maven

Install Java with JDK 1.8 (*8 (LTS) - jdk8u382* from the VSCode interface). By opening the “Configure Runtime for Projects” panel (see the section below for more details), you will see a “download” button. **Pay attention to installing the right version**. If you already have JDK 1.8, you can proceed.



Then, you can install Maven downloading the right version for your operating system at https://maven.apache.org/download.cgi.



You will probably need to add some environmental variables. For windows users, you can follow this guide https://phoenixnap.com/kb/install-maven-windows.

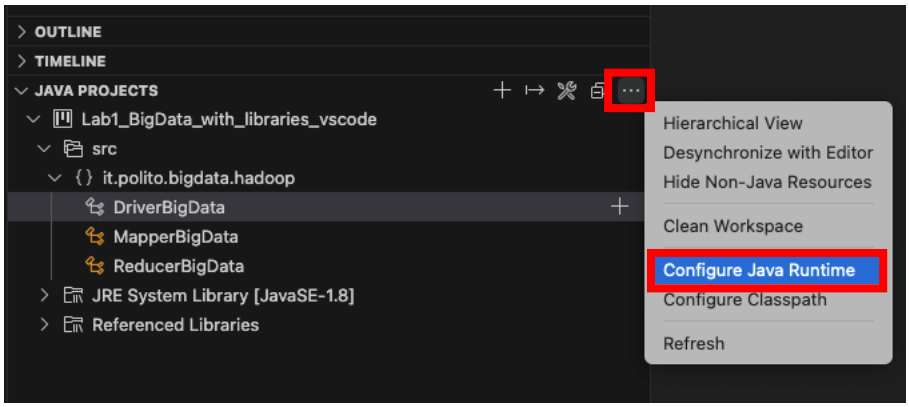
For Linux/Mac users https://www.digitalocean.com/community/tutorials/install-maven-linux-ubuntu. You can also look for it with your system package manager (apt, pacman, brew, etc.), which is probably easier.

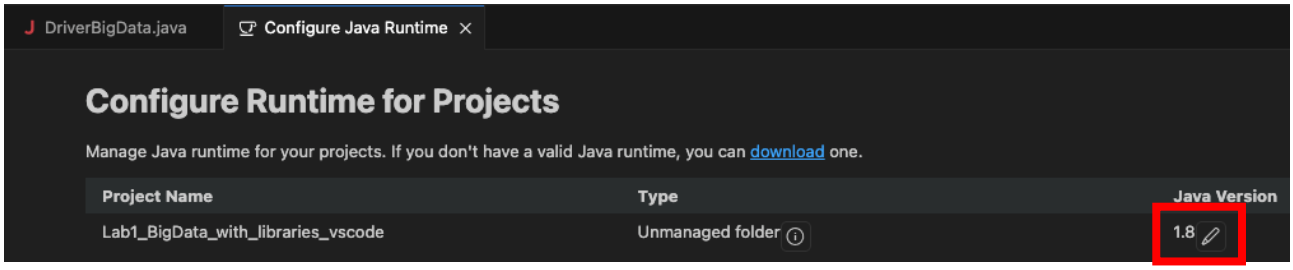
Import project (both Maven and “with_libraries”)

1. Simply Open the folder containing the project under File -> “Open folder…” or “Open folder…” in the initial screen. VSCode will automatically detect whether it’s a pure-Java project or Maven-based. You can find some project templates on the course website. Extract a zip archive on a local folder to start.

Verify usage of JDK 1.8

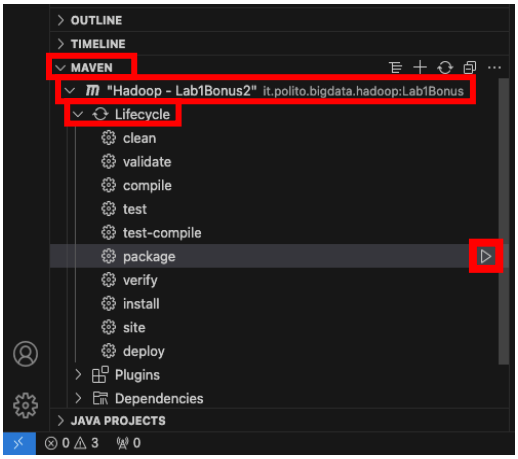
1. In the lower-left part of VSCode, under “Java Project”, click on the “…” icon
2. Click on “Configure Java Runtime” in the menu
3. Verify that, associated to the opened project, a JDK 1.8 installation is selected
4. If not, you can modify it from the “edit” button





Export JAR file from Maven project

1. In the lower-left part of VSCode, expand the "Maven" menu
2. Expand the projects' maven entry
3. Expand the Lifecycle menu

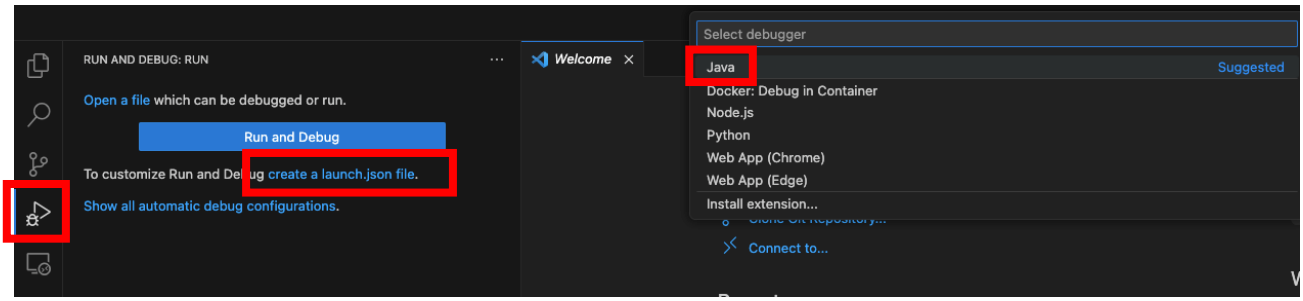


4. Click on the Run button over "package" entry
5. The exported JAR file is located under the project folder -> target -> (project name).jar

Local Execution of Hadoop/Spark (Java) application (Maven only)

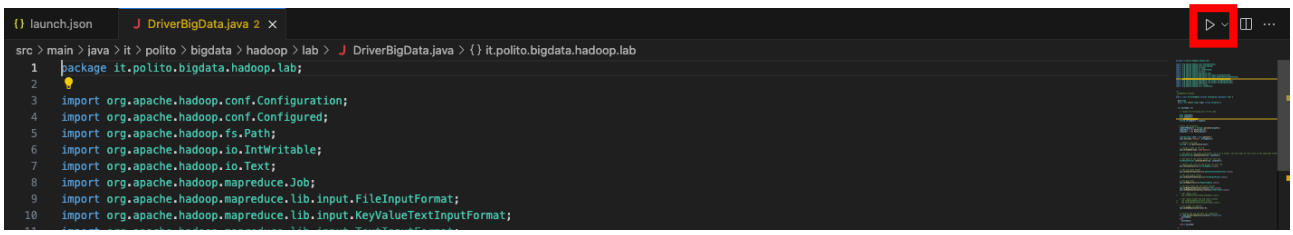
1. First, the input program arguments must be configured through the launch.json file

2. To create it, go under the Run tab in the left part of VSCode, select “crete a launch.json file” and select the “Java“ debugger



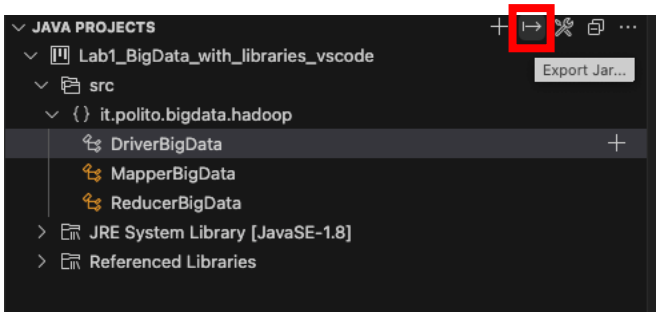
3. VSCode will automatically generate a launch.json file. You can modify it by adding the “args” entry and specify a list of input arguments, such as follows:

4. In this example, the configuration “DriverBigData” was modified by adding 4 different input program arguments.
5. To execute the application, open the DriverBigData class and click on the Run button in the upper-right corner

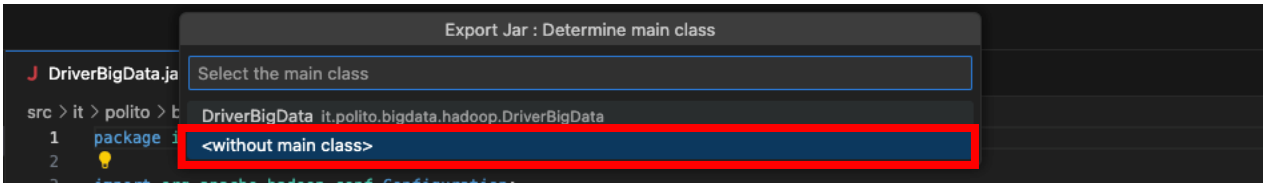


Export JAR file from “with_libraries” project

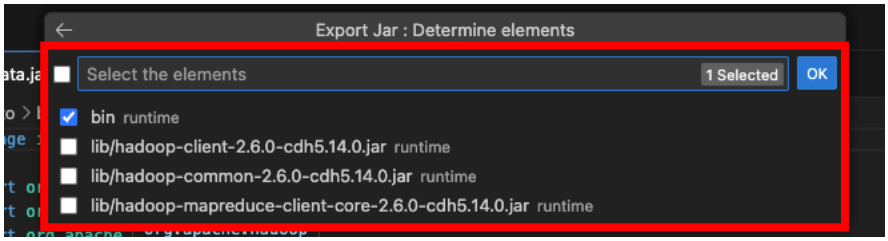
1. In the lower-left part of VSCode, in the Java Project menu, select the Export Jar button (right arrow symbol)



2. In the upper area, in the center, VSCode, will ask you to choose the main class for your project. Select <without main class>



3. Next, you will be prompted to add all the files that your jar file should contain. You can keep only the content of “bin” folder (since libraries are already present on our cluster).



4. You will find the jar file in the main folder of your project. You can upload such jar file directly on jupyter.polito.it cluster