Tools installation for seasonnal adjustment

Tanguy BARTHELEMY
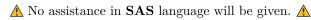
2023-01-17

Context

For seasonal adjustment we recommend using JDemetra+ algorithms

Thus, it is helpful to install the following tools:

- JDemetra+ Graphical User Interface (X13-Arima and Tramo-Seats)

⚠ No assistance in **SAS** language will be given. ⚠

Preliminary

On the computers without administrator rights (*professional computer, for example*), it is recommended to create a folder **Software** under C:\Users\...\Software or directly under C:\Users\Software where all software will be installed.

⚠ Warning: when we specify an **absolute** path for a software (JDemetra+, Java, …) in a program, a shortcut, a variable, …, it must be modified each time any root repository is moved.

1   Installation of JDemetra+

JDemetra+ is a collection of Java programs used for time series analysis and more specifically for seasonal adjustment. JDemetra+ is delivered in the form of an GUI (Graphical User Interface) but there is also a cruncher (executable).

1.1   Version of JDemetra+ and dependencies

JDemetra+ is downloadable from the github link of the application: https://github.com/jdemetra/jdemetra-app/releases.

The last release (v2.2.4) dates from january 31, 2023. It is the last **stable** version of JDemetra+. **This version should be downloaded and must be used in production.**

There is one more version of JDemetra+ which are only at a **test** stage:

- v3.0.0: the new JDemetra+ version with new features and a new GUI

JDemetra+ v2.2.4 require Java version ≥ 8 while v3.0.0 requires Java version ≥ 17:

JDemetra+ version	Java version
v2.2.4	≥ 8
v3.0.0 (RC1)	≥ 17

RC: Release candidate

In the following procedure, the installation processes of this 3 versions are the same. You just have to repeat them for each version you want to install.

1.2   Installation process

There are two possibilities for installing:

- **Download and execute** the `.exe` file which requires administrator rights
- **Download** and **unzip** the compressed folder `.zip` that allows to get a portable version of the software

⚠ Warning: for the second option, you need to **download** the compressed folder `jdemetra+-2.2.4-bin.zip` (for the version 2.2.4 for example) and **not** the folder `Source code (zip)`.

The Software is in the folder \nbdemetra\bin\, these are the file `nbdemetra.exe` (version 32-bit) and `nbdemetra64.exe` (version 64-bit).

ℹ Advice: If you want to use several versions of JDemetra+ (v2.2.4, v3.0.0, …), you can rename the unzipped folder in \nbdemetra-2.2.4\ and \nbdemetra-3.0.0\.

ℹ Remark:You can create shortcuts to the executable files if you want to launch them from another folder (Desktop, project folder…).

1.3   Installation of the cruncher

The cruncher (**JWSACruncher**) is a tool to update a workspace of JDemetra+ from the console, without opening JDemetra+ Graphical User Interface. The update of a workspace can then be done from another Software (**R** or **SAS** for example).

To use the cruncher, you have to:

- **Download** and **unzip** the file from the **latest stable** version v2.2.4 here https://github.com/jdeme tra/jwsacruncher/releases

If you want to install and use a portable Java version (See section Java installation), you have to modify some parameters to use the cruncher:

- In the unzipped folder, **open** (for example with Notepad++) the file `jwsacruncher.bat` present in the subfolder \bin\ (that is under jdemetra-cli-2.2.4\bin\ in the version 2.2.3 of the cruncher)
- **Modify** the value of the variable `JAVACMD` at the line **71** (currently `JAVACMD=java`) by the address towards the file `java.exe` of the portable version. Then, if JPortable is installed under C:\Users\Software, the new line is `if "%JAVACMD%"=="" set JAVACMD="C:\\Users\\Software\\Java64\\bin\\java"` (for Java 8).

2   Installation of Java

ℹ On Insee computers, Java is already installed in version 8. Then, there is no need to install a portable version to use JDemetra+ in version 2.2.4.

2.1   Java 8

To install Java 8, use the link https://portableapps.com/apps/utilities/java_portable. If you use the version 64-bit of JDemetra+, you should install the version jPortable 64-bit (at the bottom of the page).

2.2   Java 17

To install Java 17, you need to head over to https://www.oracle.com/java/technologies/javase/jdk17-archive-downloads.html.

- **Download** the version `Compressed Archive` of Windows (https://download.oracle.com/java/17/archive/jdk-17.0.4.1_windows-x64_bin.zip)
- **Unzip** the folder jdk-17.0.6 under C:\Users\Software (for example)

After a Java installation (in version 8, 17 or other), you need to:

- **Modify** the environment variable `PATH` of Windows
- **Modify** the targets of JDemetra+ to set the localisation of the new Java versions.

For example, if you installed Java version 17 in order to use the JDemetra+ version 3.0.0. You should add the localisation of Java 17 to the shortcut of the executable using the option `--jdkhome`. The target of the shortcut becomes `C:\Users\Software\nbdemetra-3.0.0\bin\nbdemetra64.exe --jdkhome "C:\Users\Software\Java17\jdk17"`