

# Streams

Version 3.03

## Installation, Execution, and Registration



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# I Installation and Execution

The *Streams* 3.03 application is deployed as a ZIP file downloadable from the following website.

<https://www.canterbury.ac.nz/engineering/schools/cnre/software/streams/>

Different ZIP files are provided for Macintosh, Windows and Linux systems.

The only system requirement for running *Streams* on either a Macintosh, Linux, or Windows computers is the Java Development Kit (JDK) version 1.8.0, or later, installed. This can be downloaded from the Oracle website below:

<http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

## I.1 Installation on Windows

The ZIP file required for installation on a Windows computer is named

*Streams303\_Win.zip*

To begin, create the following directory

*C:\StreamsLibrary\Streams3.03*

The contents of the zip file should be extracted into this directory. The zip file contains the following:

- *Streams3.03.exe*– the executable launch file
- *Streams3.03.jar* – the java archive file containing the *Streams* program.
- a directory containing the four software manuals in PDF format.

The file *Streams3.03.exe* and the directory of manuals can be moved to any desired location in the file system.

## I.2 Installation on Mac OS

The ZIP file required for installation on a Macintosh computer running Mac OS is named

*Streams303\_Mac.zip*

The contents of the zip file should be extracted into the Applications. The zip file contains the following:

- Streams3.03.app– the executable launch file
- a directory containing the four software manuals in PDF format.

The directory of manuals can be moved to any desired location in the file system but it is probably most convenient to have it co-located with the app itself.

If your Mac is running Mojave© (MacOS 10.14) or later you may find that the fonts displayed in various field views are not smooth. It appears that smoothing the fonts is not the default. To rectify this problem execute the following command in the Terminal app before running *Streams*:

```
defaults write -g CGFontRenderingFontSmoothingDisabled -bool NO
```

## I.3 Installation on Linux

The ZIP file required for installation on a Linux computer is named

*Streams303\_Lnx.zip*

To begin, create the following directory

*/usr/StreamsLibrary/Streams3.03*

in the root directory of the boot disk. The contents of the zip file should be extracted into this directory. The zip file contains the following:

This zip file contains the following:

- Streams3.03.sh – a shell script that will launch the *Streams* application.
- Streams3.03.jar – the jar file containing the application code.

- a directory containing the four software manuals in PDF format.

The file *Streams3.03.sh* and the directory of manuals can be moved to any desired location in the file system.

*Notes:*

1. *Streams* has been tested on a Linux machine running Mandriva 2007 with the Gnome 2.16.0 desktop. Its performance on other Linux systems is untested.
2. The user will note some slight differences between the user interface under Linux/Gnome and that under Windows and Mac OS X.

## 1.4 Execution

Launching *Streams* on a Windows or Mac OS X computer is a two step process. The first step is initiated by running the program file *Stream3.03.exe* under Windows or *Streams3.03.app* under Mac OS.

This action executes the *Streams3.03* Launcher that displays a window whose primary purpose is to allow the user to specify the amount of memory that should be allocated to the *Streams* application. Three memory values can be set (all specified in megabytes). The stack size ideally should be set to 32 or 64 Mb. The initial and maximum heap sizes may be set to a common value. This value will depend on the operating system, the JDK installed, and the amount of RAM in the computer. Ideally this value should be as large as possible. For 64bit Windows and MacOS systems the user can specify a heap size a little smaller than the total RAM installed on the computer. For example for a computer with 32 GB of RAM a heap allocation of 28 Gb would be reasonable.

On a Windows system an extra step is necessary in setting up the RAM environment the first time *Streams* is executed. Before running *Streams* the amount of accessible RAM must be set in the Java environment. This is accessible through the Control Panel. The user should perform the following steps:

1. Open the Control Panel.
2. Select Java to display the Java control panel. If Java is not visible at this level the user may need to select Programs first.

3. Select the Java tab in the Java control panel.
4. Click the View button to open the Java Runtime Environment.
5. In the runtime parameters field type the following  
  
-XmxMEMORY – XmsMEMORY  
  
where MEMORY is the number of megabytes to allocate for the heap followed by the letter ‘m’. Thus if 10Gb are to be allocated the runtime parameters should be  
  
-Xmx10000m -Xms10000m
6. Click the Apply button.
7. Launch *Streams* by double clicking the executable file. Note that the heap values specified in the launcher window cannot exceed the value specified as MEMORY above.

Steps 1-6 are only required the first time *Streams* is run.

Under Windows the launch window also allows the user to specify the location of the Streams3.03.jar file. Provided this is in the directory specified in the installation instructions no action by the user is required.

Finally, if running on a Mac the user can select whether they wish *Streams* to look like a native Mac application. If the checkbox is selected the menu bar for the application window will be displayed in the menubar at the top of the screen like a typical Mac application. If the checkbox is not selected the menubar for the application window will be displayed in the menubar of the window itself. The latter format is that used by Windows and Linux environments.

Once all settings have been made the second step in the launch process is to click the Launch button. This runs the Streams3.03 application itself.

Note that the memory settings, the Jar file location and the choice of whether the program behaves like a native Mac app, are remembered when the launcher is next executed, and the user is unlikely to need to adjust these settings again unless their system changes in some way.

Under Linux the memory allocated to *Streams* can be changed by editing the shell file, *Streams3.03.sh*, using a simple text editor. The stack memory is specified by the command line flag `-Xss32m`, while the heap specifications are set by the flags `-Xmx800m` and `-Xms800m`. In each case the numbers are the memory allocations specified in megabytes. The user can change these and resave the shell file. Finally *Streams* is launched by double clicking on the shell file *Streams3.03.sh*. In the resulting dialog box the user should select the Run option.

## 2 Registration

*Streams* must be registered before it can be run for the first time. This registration requires the user to agree to certain conditions of use. Starting with version 3.03 a registration key is longer required as *Streams* is freely available.