

# 3.1 - System Requirements

## Java Virtual Machine

The Flux Capacitor is written in 100% pure Java, therefore no platform-specific compiling of the bytecode is required. A Java Virtual Machine (JVM) with level 1.6 or higher has to be installed on the system, however, it is recommended to update to the newest Java binaries provided by Oracle for the corresponding platform (i.e., Linux, Solaris, or Windows); Mac OSX users are encouraged to use the automatic software update functionality to obtain the newest virtual machine from Apple. The following command confirms the correct installation of a valid JVM:

|                            |   |                      |   |
|----------------------------|---|----------------------|---|
| shell<br><br>(Linux /Unix) | <pre>\$ java -version java version "1.6.0" OpenJDK Runtime Environment (build 1.6.0-b09) OpenJDK 64-Bit Server VM (build 1.6.0-b09, mixed mode)</pre> | cmd<br><br>(Windows) | <pre>C:\&gt;java -version java version "1.6.0_20" Java (TM) SE Runtime Environment (build 1.6.0_20-b02) Java HotSpot(TM) Client VM (build 16.3-b01, mixed mode)</pre> |
|----------------------------|---|----------------------|---|

## RAM

A custom amount of memory can be reserved for simulations by setting the environment variable FLUX\_MEM before starting the Flux Simulator:

|                           |                                    |                      |                                     |
|---------------------------|------------------------------------|----------------------|-------------------------------------|
| shell<br><br>(Linux/Unix) | <pre>\$ export FLUX_MEM="4G"</pre> | cmd<br><br>(Windows) | <pre>C:\&gt;set FLUX_MEM="4G"</pre> |
|---------------------------|------------------------------------|----------------------|-------------------------------------|

## Disk

While iterating all reads, the Flux uses heavy disk traffic. To speed up processing, provide a fast (i.e., in most instances a local) hard drive for the input data and the temporary file folder (TMP\_DIR, either as a parameter or by setting the corresponding environment variable). The FLUX\_MEM setting has an indirect influence on the disk traffic, because all loci that contain more reads than can be loaded with the provided memory limits are to be sorted on disk. Depending on your experiment size and the protocol, it is therefore recommended to provide some GB of memory to avoid additional disk access.