

ACE Installation Instructions

ACE works as a standalone application running within the Java runtime environment. The primary requirements for installation is therefore to install the Java Runtime environment.

Essential Prerequisites:

- 64bit Java runtime environment (version 8 or above).

Additional Prerequisites:

- 64bit R runtime is installed
- rJava
- seriation

Installing the Extended Features for the Combination Heatmap:

ACE has additional extended features that require the R runtime environment to be installed. This enables additional sorting within the Combination Heatmap (use of the Bond Energy (BEA) Algorithm and Optimal Leaf Ordering (OLO) Algorithms).

1. Install 64bit R (version 3.3.2 or above). During the installation, click the registry entries checkbox: "Save version number in registry".

Important Note: If there are multiple versions of R installed, make sure that the Windows registry entry is pointing to the correct version (safe option is to remove the registry keys for other versions). The registry entry can also be added after the installation by running "RSetReg.exe" (run as administrator) in "bin" folder of the corresponding R version.

2. install "rJava" and "seriation" packages. R commands to install these packages are: `install.packages('rJava')` and `install.packages('seriation')`.

Important Note: If R is installed on the System drive (usually C:), Run R as an administrator (Right-click on R shortcut and Click "Run as administrator") before installing the packages. This is critical because Windows does not allow normal users to install packages in the default R library location, which in this case would be on System Drive. Installing the above packages on a different location does not work.

3. Edit the Environment PATH Variable so that it also points to 64bit R runtime and the 64bit JRI file in "rJava" package: For example:

C:\Program Files\R\R-4.2.0\bin\x64

C:\Program Files\R\R-4.2.0\library\rJava\jri\x64

If you don't have sysadmin privileges then launch the Environment Variables dialog (e.g., by selecting the Windows icon and typing 'env') and then create a new user variable called PATH (it will be appended to the system PATH variable) with a ';' between the two folder names, e.g.:

C:\Users\scsrar\Documents\R\R-4.2.0\bin\x64;C:\Users\scsrar\Documents\R\R-4.2.0\library\rJava\jri\x64

Note: In the event these extra instructions are not followed a less efficient implementation of the BEA will be used and the OLO will be disabled. The rest of ACE's functionality will remain unaffected.