EBImage installation

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1   UNIX/Linux

EBImage requires the following softwares/libraries to be installed:

- pkg-config

- gtk+-2.0

- ImageMagick

On UNIX/Linux systems, pkg-config and gtk+-2.0 are most likely present. The ImageMagick library is available in many UNIX distributions (Ubuntu, Debian, Fedora, Suse). Alternatively, you may download and compile it from `http://www.imagemagick.org/script/install-source.php#unix`. Please note that the development versions (with C header and libraries) of gtk+-2.0 and ImageMagick are required to install EBImage.

Check if gtk+-2.0 works by typing in a terminal 'gtk-demo'. Check if ImageMagick works by typing 'convert -version'. Check if the libraries are correctly installed by typing 'pkg-config gtk+-2.0 --libs' and 'Magick-config --libs'. You should see some output without error messages.

EBImage is ready to be installed. Just type 'biocLite("EBImage")' in an R terminal to install EBImage. Otherwise, download the EBImage **source** package from the Bioconductor website at `http://www.bioconductor.org/packages/release/bioc/html/EBImage.html` and type 'R CMD INSTALL x', where 'x' is the name of the downloaded package.

Please note that in some Linux distributions, such as Ubuntu 9.04, the MagickWand subcomponent is not part of the core ImageMagick package and should be installed separately.

EBImage works fine with gtk+-2.0 2.12.9 and ImageMagick 6.3.7 Q16.

2   MacOS systems

EBImage requires the following softwares/libraries to be installed:

- pkg-config

- gtk+-2.0

- ImageMagick

These softwares can be easily installed with the MacPorts package management software, available at `http://www.macports.org`. To install MacPorts, you first need to install the XCode developement suite and the X11 SDK. These tools are located in the DVDs shipped with your Mac.

Next, install the packages gtk+-2.0 and ImageMagick by typing the commands 'sudo port install ImageMagick' and 'sudo port install gtk2' in a terminal. The package pkg-config is automatically installed as a dependency of gtk+-2.0.

Check if gtk+-2.0 works by typing in a terminal 'gtk-demo'. Check if ImageMagick works by typing 'convert -version'. Check if the libraries are correctly installed by typing 'pkg-config gtk+-2.0 --libs' and 'Magick-config --libs'. You should see some output, without error messages, and notice that all libraries are located in '/opt/local/lib'.

EBImage is ready to be installed. Just download the EBImage **source** package from the Bioconductor website at `http://www.bioconductor.org/packages/release/bioc/html/EBImage.html` and type in a terminal 'R CMD INSTALL x', where 'x' is the name of the downloaded package.

Before using EBImage, you have to start the X11 server located in the 'Application/Utilities' directory. Start R and type 'library(EBImage) ; example(EBImage)' to check whether the installation of EBImage went fine.

Most installation problems come from:

- Installation of the EBImage binary Mac package instead of the **source** one. The binary Mac package works fine but is tedious to install. It requires ImageMagick to be installed in '/usr/local/lib' and gtk+-2.0 to be installed in '/Library/Frameworks/GTK+.framework'.

- Clash between previous installed libraires (manually installed or installed with Fink). Please check that the gtk+2-.0 and ImageMagick libraries are located in '/opt/local/lib' and not in '/usr/local' or '/sw/'.

- The X11 server is not running. Please start the X11 server before installing or running EBImage.

EBImage works fine with gtk+-2.0 2.12.9 and ImageMagick 6.3.7 Q16.

3   Windows

EBImage requires the following softwares/libraries to be installed:

- gtk+-2.0

- ImageMagick

The gtk+-2.0 bundle can be downloaded from `http://ftp.gnome.org/pub/gnome/binaries/win32/gtk+/2.16/gtk+-bundle_2.16.6-20100912_win32.zip` or `http://www.gtk.org/download-windows.html` (select the binary GTK+ all-in-one bundle). Please install it, for example in 'C:\gtk', and add the 'C: \gtk \bin' path to the system environment PATH variable by editing the tab 'System/Advanced/Environment' variables of the 'My computer' desktop icon properties.

ImageMagick can be downloaded from `http://www.imagemagick.org/script/binary-releases.php#windows`. Select the Q16 DLL version and install it on your computer. During installation, the checkboxes 'Update executable search path' and 'Install developement headers and libraries' must be checked on.

EBImage works fine with gtk+-2.0 2.12.9 and ImageMagick 6.3.7 Q16.

Please note that on some older Window systems, you may see a runtime error stating that 'an application has made an attempt to load the C runtime library incorrectly'. This is an ImageMagick related issue which can be fixed by downloading the Microsoft VC++ 2008 Redistributable Package here: `http://www.microsoft.com/downloads/details.aspx?FamilyID=9b2da534-3e03-4391-8a4d-074b9f2bc1bf&displaylang=en`

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