BEQI2: Installation Guide

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2014-06-10

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1 Introduction

The **BEQI2**-package requires a recent installation of the R-environment. The aim of this manual is to help people with no, of only a limited experience in R, to

1. install the R-environment;

2. install the **BEQI2**-package;

3. run a sample session.

Installation of R and its packages have to be done only once. Although this manual primarily focuses on MS-Windows users, users of other operating systems may also find these instructions useful.
Note: to facilitate importing BEQI2-results in MS-Excel, users should make sure that MS-Excel uses a period (.) as decimal separator and *not* a comma (,). In addition, the date format should comply with ISO 8601, *i.e.* YYYY-mm-dd (*e.g.*, 2014-03-31).
In Windows 7, this can be accomplished by means of the 'Region and Language' menu, in Windows XP by means of the 'Regional settings' menu (*e.g.*, by using the English (UK) setting).
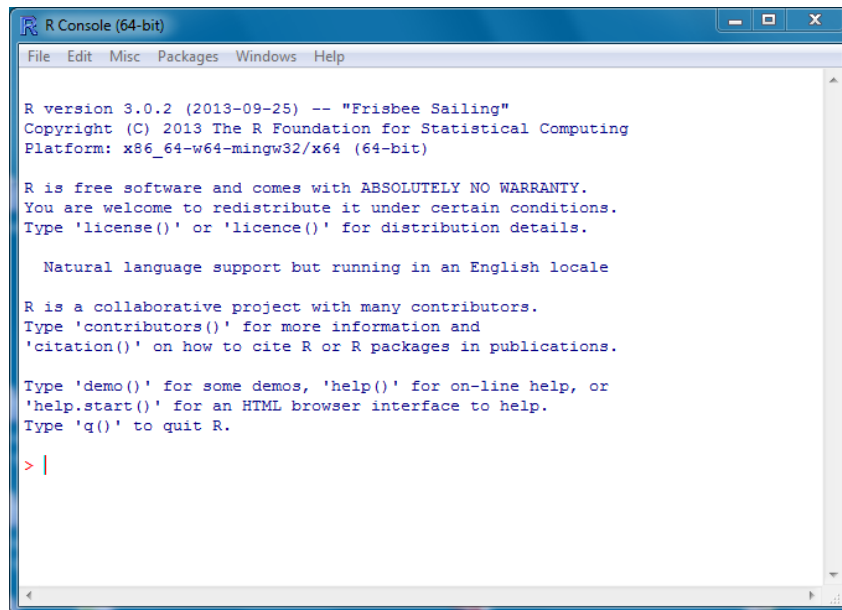
Figure 1: R-GUI in MS-Windows

2 Install R

You need at least R version 3.0.2 to run the **BEQI2**-tool. The latest version of R can be downloaded from the Comprehensive R Archive Network (CRAN) website as follows:

1. navigate in a web-browser to `www.r-project.org`

2. select 'CRAN' in the menu on the left;

3. select a download location (preferably a location close to you);

4. select the R-version for your operating system, *.e.g.*, '`Download R for Windows`';

5. Select 'base';

6. Select `Download R x.y.z` (where x.y.z. is the version number, *e.g.*, 3.0.2);

7. Double click on the downloaded file and follow the installation instructions on the screen. In case of doubt, simply select the default/recommended settings.

3 Start the R program

On MS-Windows, R ships with a graphical user interface (GUI). It can be started by double clicking the R-icon. The R-console should look like similar to the one given in Figure 1.

4 Install the BEQI2-package

In the menu of the R-console, select submenu `Install package(s)...` from main menu `Packages`. Select a download location (CRAN mirror, Figure 2, left), and select the BEQI2-package (Figure 2, right). R will automatically install the BEQI2-package and all packages it depends on.
Note: Installation of the **BEQI2**-package has to be done only once.

5 Load the BEQI2-package

Loading of the **BEQI2**-package has to be done at the start of each new R-session. Go to the menu of the R-console, select submenu `Load Package...` from main menu `Packages` and select the **BEQI2**-package. As an alternative one may also type
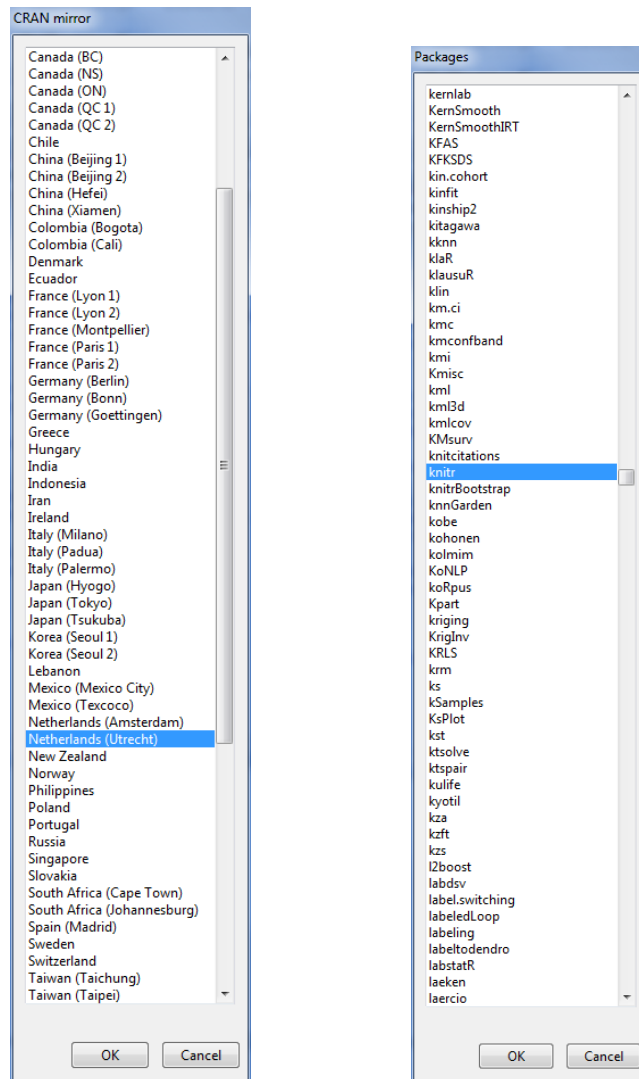
Figure 2: Selecting a CRAN-mirror (left) and CRAN-package (right).

```
library(BEQI2)
```

in the R-console.

6 Create a BEQI2-directory structure

To give users a head start, the function `BEQI2dir` is available to create a default **BEQI2**-package directory. Simply type this function in the R-terminal:

```
BEQI2dir()
```

A directory selection dialogue will pop up and will ask the user to select an existing directory. NOTE: This directory should be empty to avoid mixing-up and losing analysis results.

7 Start the BEQI2-tool

The **BEQI2**-tool may be started by typing

```
BEQI2()
```

or

```
beqi2()
```

in the R-console. A file-dialogue will appear, and the user needs to select the JSON-file containing all BEQI2-settings.

8 View your results

The BEQI2-function produces the following results in the output directory:

1. a report (HTML-format) with all analysis results. This report will be launched automatically in your default internet browser after a BEQI2-analysis;

2. analysis results written in CSV-format. This format can be directly used for further analysis, *e.g.* in MS-Excel or LibreOffice;

3. a log-file containing diagnostic messages, warning messages, and error messages.