

# “Readme” file of the TSdist package.

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This document provides the installation instructions and prerequisites for the TSdist package of R.

## 1 Installation prerequisites

- **R software:** The last version of the software can be downloaded from <http://www.r-project.org/>.
- **Other required R packages:** These packages are listed in the Depends and Imports fields of the Description file of the package, and they can all be found in the CRAN repository:
  - stats: Already installed with the basic installation of R
  - proxy: <http://cran.r-project.org/web/packages/proxy/index.html>
  - zoo: <http://cran.r-project.org/web/packages/zoo/index.html>
  - xts: <http://cran.r-project.org/web/packages/xts/index.html>
  - dtw: <http://cran.r-project.org/web/packages/dtw/index.html>
  - TSclust: <http://cran.r-project.org/web/packages/TSclust/index.html>
  - KernSmooth: <http://cran.r-project.org/web/packages/KernSmooth/index.html>
  - locpol: <http://cran.r-project.org/web/packages/locpol/index.html>
  - pdc: <http://cran.r-project.org/web/packages/pdc/index.html>
  - longitudinalData: <http://cran.r-project.org/web/packages/longitudinalData/index.html>
  - cluster: <http://cran.r-project.org/web/packages/cluster/index.html>
- **Some suggested (but not required) R packages:**
  - testthat: <http://cran.r-project.org/web/packages/testthat/index.html>
- **C compiler:** The TSdist package includes some internal functions programmed in C language. As such, if the package is installed from source (as is the case of most Unix based distributions), then a C compiler (such as gcc, which should normally be available already) should be installed. If the installation of TSdist is done from binary files obtained from CRAN (for Windows, and some OS distributions) then the compiler is not necessary.

## 2 Installation instructions

### 2.1 Automatic installation from the CRAN repository

The simplest way to install the **TSdist** package is by connecting to the CRAN repository, where the package is hosted. The following command will download and install the **TSdist** package in Linux, Mac-OS and Windows systems from CRAN:

```
1 install.packages("TSdist", dependencies=TRUE)
```

This method will automatically install all the R packages **TSdist** depends on and will also install the **TSdist** package itself. Remember that, for Unix distributions, a C compiler must be installed in order to correctly compile the C code within the package. Also, note that for this type of installation an internet connection is required.

### 2.2 Manual installation for Unix-like systems

If we want to install **TSdist** manually from the source files, in Unix systems (except some OS versions), we will have to download the package manually from CRAN and execute the following command:

```
1 install.packages("path to package source", repos=NULL)
```

However, if we choose this option, all the packages **TSdist** depends on will also have to be installed manually. These can be downloaded from the URL-s shown in Section 1 and can be installed using the same command (separately for each package):

```
1 install.packages("path to package sources", repos=NULL)
```

Also, remember that in this case, a C compiler must be installed in order to correctly compile the C code within the package.

### 2.3 Manual installation for Windows and OS X Snow Leopard or OS X Mavericks

Finally, if we want to install **TSdist** manually in Windows, OS-X Snow Leopard or OS X Mavericks, since the package contains some C code, we will need the binary files. These are hosted in the CRAN repository, in the page of the **TSdist** package (<http://cran.r-project.org/web/packages/TSdist/index.html>) and can be downloaded directly from there. To install the package from the binaries use the following commands:

```
1 install.packages("path to .zip binaries", repos=NULL)    ### For  
  windows
```

```
1 install.packages("path to .tgz binaries", repos=NULL) ### For  
   OS X
```

As in the previous case, this will also require the installation of the packages that **TSdist** depends on, which can be done following the same procedure.

For more information on installing and administrating R and its packages see [http://cran.r-project.org/doc/manuals/r-release/R-admin.html#Installing-R-under-Unix\\_002dalikes](http://cran.r-project.org/doc/manuals/r-release/R-admin.html#Installing-R-under-Unix_002dalikes).

### 3 Use of TSdist

To begin to use the **TSdist** package in R, we just need to type the following command in the R console:

```
1 library(TSdist)
```