

Setting up your system for Geo-scripting with R

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October 23, 2013

1 Introduction

Having your system properly set-up is a critical step before starting any geo-processing with R. This short tutorial will guide you through some important steps that you should follow in order to have the required software installed and appropriately set-up. Figure 1 provides an overview of the different components of the system and how they are connected with each others.

2 On windows

R and R Studio

For information on how to install R and R Studio, please refer to the [R installation manual for windows](#) and the [R Studio download page](#).

Rtools

RTools is essential if you want to build R package. It is relatively easy to install, simply download the binary associated with your R version from [this page](#), and follow the instructions from the installer. When prompted for "adding the following directories to your system path", you must say yes.

GDAL/OGR/PROJ4 libraries

TODO() Check that this is actually required. Many options are available for installing these libraries on Windows system.

- FWTools (a bit outdated).
- Installation via OSGeo4W installer.
- By installing Quantum GIS.

In either cases, the bin directory path (containing the gdal executables) has to be appended to system PATH.

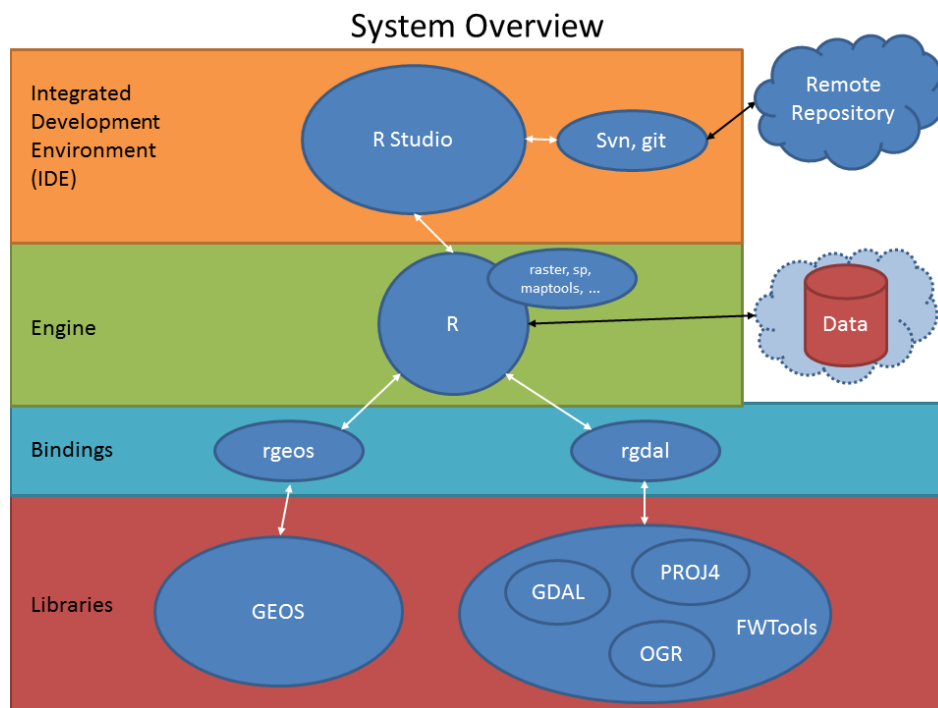


Figure 1: System architecture overview¹

Version control software

Installing these software is not an absolute necessity, however it might come handy if you plan to implement some of the good practices discussed in Lesson 3. Refer to [Lesson 3](#) for more details.

Git and SlickSVN

Most likely you need one OR the other, depending on whether your repository is hosted on a git or Subversion version control system. These software are very straightforward to install, simply download the executables and follow the instructions from the installer. [Git](#) download page, and [slickSVN](#) download page.

Integration with the R Studio IDE

It is possible that R Studio automatically detects Git and SlickSVN on your system, however this is not systematic. In case the Git/Svn buttons in R Studio are inactive, after installing either Git or SlickSVN, follow the steps described below.

Once SlickSVN (or git) has been installed, in order to allow it to interact with RStudio, its path has to be set. Conveniently that can be done directly from within RStudio. In R Studio, navigate to Tools - Options - Git/SVN - SVN (or Git) - Browse and select the SVN.exe (or git.exe) executable in C:/Program Files/SlickSVN/bin/ (or C:/Program Files/git/bin/) Restart RStudio.

¹Note that FWTools is one example of binary distribution for windows, you can also install gdal/ogr/proj.4 from OSGeo4W, (linux: by compiling it yourself from source or from a package archive)

Specific R packages

Not all packages are hosted on the CRAN package repository, this is the case for instance of the MODIS package that is maintained on R Forge, and requires an extra argument in the `install.packages()` function to be installed. The install line, to be copy pasted in the R shell is often given on the package R forge home page.

3 Linux

R and R Studio

Information on how to install R and RStudio on linux systems can be found [here](#) and [here](#).

GDAL/OGR/PROJ4/GEOS libraries

Debian/Ubuntu

The easiest is probably to install from an apt repository. Recent versions of these libraries are maintained on the Ubuntu GIS ppa. First add it to your list of ppa.

```
sudo add-apt-repository ppa:ubuntugis/ppa
sudo apt-get update
```

Then install the libraries with apt-get.

```
sudo apt-get install gdal
sudo apt-get install proj
sudo apt-get install geos
```

Your system should be ready to install rgdal and rgeos R packages.

Redhat/CentOS

4 Mac