

Zelig Installation

Matt Owen

September 10, 2013

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1 Introduction

Zelig is a Statistical software suite written in the R programming language. As a result, installing any Zelig add-on is a matter of three steps:

1. Download and install R (section 3),
2. Install Zelig (section 4), and
3. Install optional Zelig add-ons (section 6)

The following guide is intended to quickly and easily explain each of these steps.

2 Requirements for Installing R

The Zelig software suite has only two requirements:

1. **R version 2.15+**, which can be downloaded at <http://r-project.org/>
2. A major operating system, either:
 - Mac OS X 10.4+,
 - Windows or
 - Linux

Installation instructions for R can be found on the R-project website. Simply visit the download page, and select any mirror link, though this one is recommended:

<http://cran.opensourceresources.org/>

3 Installing R

Installing R is typically straightforward, regardless of which operating system is being used. Several useful documents exist on CRAN (The Comprehensive R Archive Network) for explanation and troubleshooting of R installation. These documents can be found on any CRAN mirror. Specifically, the complete guide to install R can be found in section ??.

<http://cran.r-project.org/doc/manuals/R-admin.html>

This document contains specific documents for installing R on Mac , Windows , and Unix-alike systems.

4 Installing Zelig

Once R version 2.15 or greater has been installed on the client's machine, setting up Zelig is simple, and can be completed in one of two ways. The first method is via an installation script (section 4.1) which guides the user through the Zelig installation, and subsequently lets the user select exactly which add-on packages he or she would like to install. The second method is via R's built-in package-installer (section 4.3). If, at a later time, the user wishes to install additional Zelig add-ons, they can be manually installed separately from the core package (see section 6).

4.1 Install Wizard: Automating a Zelig Installation

Once the R software is installed, the entire installation procedure of Zelig and its add-on packages can be handled automatically via an installation script.

To install Zelig interactively, as well as its add-on packages, simply:

1. **Launch R.** This program can be found wherever the computer stores its applications (e.g. “Program Files” on a Windows machine or “Applications” on a MacOS X Computer)
2. **Run the Setup Wizard.** At the R command-prompt, type:

```
source("http://r.iq.harvard.edu/install_live.R")
```

3. **View the Option Menu.** A text-menu with options - “Install Everything” and “Custom Install” - will be displayed.
4. **Choose Whether to Install Everything or Perform a Custom Install.** If you would like to install every package, simply choose “Install Everything” (Option 1). Otherwise, “Custom Install” will guide you through the process of package selection.

4.2 Custom Install: Customizing Installation via the Installation Wizard

The option for a “Custom Install” of the Zelig software suite allows for users to select only a particular set of software packages to install. This is appropriate for the user who wishes to use Zelig to run only specific sets of models. Running the custom install requires the interaction of the user to pick-and-choose the specific software packages.

When “Custom Install” is selected, the install script will display the complete list of Zelig packages along with numbers corresponding to each package. Users will choose which package to download by entering the number this associated number.

After each selection, the install script will display a listing of each package that will be installed. Additionally, selections that have already been made will have an asterisk placed to their left within the menu. To remove a package, simply re-enter the same number that was used to select it (this number is always to the left of the package’s name in the menu).

When all the selections have been made, enter “0” to begin installing the selected packages.

4.3 Manual Install: Installing Zelig via `install.packages`

The following installation procedure will install Zelig without any add-on packages. That is, Zelig will only download files necessarily for developing *new* Zelig packages and basic generalized linear model regressions - logit, gamma, gaussian, etc.

To install this “core” package, simply type the following from the R command prompt:

```
install.packages(  
  "Zelig",  
  repos = "http://r.iq.harvard.edu",  
  type = "source"  
)
```

NOTE: This method requires that Zelig, and all its dependent packages be installed manually.

5 List of Available Packages

These add-on packages include:

- **ZeligOrdinal:** Ordinal Models for Logit and Probit Regressions
- **ZeligMultivariate:** Bivariate Models for Logit and Probit Regressions
- **ZeligMultinomial:** Multinomial Models Logit and Probit Regressions
- **ZeligGAM:** Generalized Additive Models for Logit, Gaussian, Poisson and Probit Regressions
- **ZeligGEE:** Generalized Estimating Equation Models for Gamma, Logit, Gaussian, Poisson and Probit Regressions
- **ZeligMixed:** Mixed Effect Models (Multi-level) for Gamma, Logit, Least-squares, Poisson and Probit Regressions
- **ZeligSurvey:** Survey-weighted Models for Gamma, Logit, Normal, Poisson and Probit Regressions
- **ZeligNetwork:** Social Network Regression Models for Gamma, Logit, Normal, Poisson and Probit Regressions
- **ZeligBayesian:** Bayesian Regressions for Logit, Multinomial Logit, Normal, Poisson and Probit Models
- **ZeligLeastSquares:** Least Squares Regressions for Seemingly Unrelated, Two-Stage, and Three-Stage Methods
- **ZeligCommon:** Common Statistical Models
- **ZeligMisc:** Miscellaneous and Uncategorized Models

6 Installing Add-on packages

6.1 Using `source("http://r.iq.harvard.edu/install_live.R")`

In most situations, it is simpler and easier to re-run the install script, rather than use the common `install.packages` function that comes packaged with the R software. If you wish to employ this method, simply follow along with the instructions found on page 3. That is, by entering:

```
source("http://r.iq.harvard.edu/install.zelig.R")}
```

6.2 Using `install.packages`

To download and install any of these packages individually, simply type the following from an R command prompt:

```
install.packages(  
  "PACKAGE_NAME",  
  repos = "http://r.iq.harvard.edu/",  
  type = "source"  
)
```

Where "PACKAGE_NAME" is replaced with the title of the Add-on packages in the above itemized list. For example, to download "Generalized Estimating Equation Models...", note that its package name is `ZeligGEE`, and type from the R command prompt:

```
install.packages(  
  "ZeligGAM",  
  repos = "http://r.iq.harvard.edu/",  
  type = "source"  
)
```

The complete list of statistical packages for Zelig can be found on page 4.

7 Post-Installation

Barring any installation errors, Zelig and any add-on packages that were manually installed, should now be available from an R-session. Simply type from an R command prompt:

```
library(Zelig)  
?Zelig
```

To begin interacting and using the Zelig software package. Additionally, demo files can be listed via the command:

```
demo(package="Zelig")
```