Zelig Installation

Matt Owen

January 27, 2012

1   Introduction

Zelig's installation procedure is straightforward, though the package itself is not standalone, and requires the installation of R version 2.13 (or greater). That is, because Zelig is written in the R statistical programming language, it cannot be installed without support for the R programming language. As a result of this, installing Zelig and Zelig-compliant packages can be divided into three tasks:

1. Download and Install R,

2. Install Zelig, and

3. Install Optional Zelig Add-ons

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

2   Requirements for Installation

The Zelig software suite has only two requirements:

1. **R version 2.13+**, 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 at:

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 Easy Installation

Once R version 2.13 or greater has been installed on the client's machine, setting up Zelig is a breeze. R has built-in facilities for managing the installation of statistical packages. This provides a simple mechanism for installing Zelig, regardless of the operating system that is being used.

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

1. **Install R version 2.13 or greater**. Download R from the R project's website, which can be found at http://cran.opensourceresources.org/

2. **Launch R**. Once R is installed, this program can be found wherever the computer stores applications (e.g. "Program Files" on a Windows machine)

3. At the R command-prompt, type:

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

This launches pre-written install script, which directs R to download all the appropriate statistical packages associated with the Zelig software suite.

5 Advanced Installation

For users familiar with R and Zelig, it may be useful to selectively install packages. In order to do this, users simply need to use the `install.packages` function built into R's functionality.

5.1 Install Zelig without Additional Packages

This 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"
                 )
```

5.2   Install Add-on Packages

In addition to Zelig's core package, which exclusively contains simple regression models and a Developers' API for producing novel R packages, a myriad of Zelig add-on packages are available. These packages supplement Zelig's features, and add specialized, advanced models to Zelig.

5.2.1   List of Available Packages

These add-on packages include:

- `bivariate.zelig`: Bivariate Models for Logit and Probit Regressions

- `gam.zelig`: Generalized Additive Models for Logit, Gaussian, Poisson and Probit Regressions

- `gee.zelig`: Generalized Estimating Equation Models for Gamma, Logit, Gaussian, Poisson and Probit Regressions

- `mixed.zelig`: Mixed Effect Models (Multi-level) for Gamma, Logit, Least-squares, Poisson and Probit Regressions

- `multinomial.zelig`: Multinomial Models Logit and Probit Regressions

- `ordinal.zelig`: Ordinal Models for Logit and Probit Regressions

- `survey.zelig`: Survey-weighted Models for Gamma, Logit, Normal, Poisson and Probit Regressions

5.2.2 Using `install.packages`

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

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

Where `"MODEL 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 `gee.zelig`, and type from the R command prompt:

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

6 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")
```