IBM SPSS Statistics - Essentials for R: Installation Instructions for Windows

The following instructions are for installing IBM® SPSS® Statistics - Essentials for R on Windows operating systems.

Overview

IBM® SPSS® Statistics - Essentials for R provides you with tools you need to start developing custom R applications for use with IBM® SPSS® Statistics. It includes the following:

▶ The IBM® SPSS® Statistics - Integration Plug-in for R for SPSS Statistics 21

▶ A set of working examples of R applications for SPSS Statistics

Install the IBM SPSS Statistics application

IBM® SPSS® Statistics - Essentials for R is designed for the following applications:

■ IBM SPSS Statistics for Windows

■ IBM SPSS Statistics Server for Windows

There are no additional operating system and hardware requirements. The components installed with Essentials for R work with any valid IBM® SPSS® Statistics license.

If you have not already done so, follow the instructions provided with the software to install one of the SPSS Statistics applications on the computer where you will install Essentials for R. If you are installing Essentials for R on a desktop machine, install SPSS Statistics 21 on the desktop machine. If you are installing Essentials for R on a server machine, install SPSS Statistics Server 21 on the server machine.

Download and install R 2.14

Version 21 of IBM® SPSS® Statistics - Essentials for R requires R version 2.14 (version 2.14.2 is recommended). Install R on the computer where you will install Essentials for R. It is available from *http://www.r-project.org/*. You can also download it directly from *ftp://ftp.stat.math.ethz.ch/Software/CRAN/bin/windows/base/old/*.

Note: If you are installing R on a 64-bit machine, be sure to include the 32-bit version of R with the installation.

Download and install IBM SPSS Statistics - Essentials for R

Be sure to use a version of IBM® SPSS® Statistics - Essentials for R that is compatible with the version of IBM® SPSS® Statistics on your machine. Within a major version of SPSS Statistics, such as 21, you must use a version of Essentials for R that has the same major version. It is not necessary to uninstall earlier versions of Essentials for R before installing a newer version.

For users who are working in distributed mode (with SPSS Statistics Server) please install Essentials for R on both the client and server machines. If you installed the 32-bit version of SPSS Statistics Server then install the 32-bit version of Essentials for R on the server machine. If you installed the 64-bit version of SPSS Statistics Server then install the 64-bit version of Essentials for R on the server machine. *Note*: On a 64-bit machine, the SPSS Statistics installer automatically installs the 64-bit version of SPSS Statistics Server unless you explicitly choose to install the 32-bit version.

▶ Download version 21 of Essentials for R, available from the SPSS community at *http://www.ibm.com/developerworks/spssdevcentral*.

Windows XP

▶ Double-click the downloaded file and follow the instructions that appear on the screen.

Windows Vista, Windows 7, or Windows Server 2008

You must run the installer as administrator:

▶ Using Windows Explorer, browse to the folder where you downloaded the file.

▶ Right-click the downloaded file and choose Run as Administrator.

▶ Follow the instructions that appear on the screen.

Pushing an installation

As an alternative to the manual installation described above you can push the installation to Windows computers. This is most useful for network administrators who need to install to multiple end users. Following is the form of the command line for pushing an installation:

```
<installer_name> /S /v/qn
```

where *<installer_name>* is the name of the installer file for Essentials for R—for example: *SPSS_Statistics_REssentials_21000_win32.exe* .

As part of the installation, any R packages required by the R examples will be automatically downloaded over the Internet if possible. This may take a few minutes.

Before you start using the IBM SPSS Statistics - Integration Plug-in for R

After you install IBM® SPSS® Statistics - Essentials for R, you will be able to start developing R applications with the IBM® SPSS® Statistics - Integration Plug-in for R. Complete documentation for the plug-in is available from the topic "Integration Plug-in for R" in the IBM® SPSS® Statistics Help system. It is also available in PDF form by choosing Programmability > R Plug-in from the SPSS Statistics Help menu. You may also want to go through the tutorials available from Help>Working with R.

Accessing the R examples

IBM® SPSS® Statistics - Essentials for R includes a set of working examples of custom R procedures for IBM® SPSS® Statistics. All examples include custom dialogs and all but one (Rboxplot) also include an extension command. Following are the menu locations of the custom dialogs for the R examples:

- Analyze>Correlate>Heterogeneous Correlations
- Analyze>Loglinear>Latent Class Analysis
- Analyze>Regression>Quantile Regression
- Analyze>Regression>Regression Relative Importance
- Analyze>Regression>Residual Heteroscedasticity Test
- Analyze>Regression>Robust Regression
- Analyze>Regression>Tobit Regression
- Analyze>Scale>Rasch Model
- Graphs>R Boxplot

The Heterogeneous Correlations example requires both the IBM® SPSS® Statistics - Integration Plug-in for R and the IBM® SPSS® Statistics - Integration Plug-in for Python. The Integration Plug-in for Python is included with IBM® SPSS® Statistics - Essentials for Python, available from the SPSS community at *http://www.ibm.com/developerworks/spssdevcentral*.

If one of the Analyze menu items is not present in your SPSS Statistics product, then please look on the Custom menu for the Analyze menu dialogs—for example, Custom>Heterogeneous Correlations.

The implementation code and XML specification files for extension commands associated with the custom dialogs can be found in the *extensions* directory under the SPSS Statistics installation directory. The following files are installed:

- **Heterogeneous Correlations.** *SPSSINC_HETCOR.py* and *SPSSINC_HETCOR.xml*
- **Quantile Regression.** *SPSSINC_QUANTREG.R* and *SPSSINC_QUANTREG.xml*
- **Residual Heteroscedasticity Test.** *SPSSINC_BREUSCH_PAGAN.R* and *SPSSINC_BREUSCH_PAGAN.xml*
- **Robust Regression.** *SPSSINC_ROBUST_REGR.R* and *SPSSINC_ROBUST_REGR.xml*
- **Tobit Regression.** *SPSSINC_TOBIT_REGR.R* and *SPSSINC_TOBIT_REGR.xml*

- **Rasch Model.** *SPSSINC_RASCH.R* and *SPSSINC_RASCH.xml*
- **Latent Class Analysis.** *STATS_LATENT_CLASS.R* and *STATS_LATENT_CLASS.xml*.
- **Regression Relative Importance.** *STATS_RELIMP.R* and *STATS_RELIMP.xml*.

Notes

- Help for each of the procedures accessible from the menus is available from the Help button on the associated dialog box. The help is not, however, integrated with the SPSS Statistics Help system.
- Complete syntax help for each of the extension commands associated with the custom dialogs is available by executing the command and including the /HELP subcommand. The command name is the name of the associated implementation file without underscores—for example:

      SPSSINC HETCOR /HELP.

  The command syntax help is not, however, integrated with the SPSS Statistics Help system and is not included in the *Command Syntax Reference*.

- The dialogs were created with the Custom Dialog Builder in SPSS Statistics. You can view the design for any of the dialogs and/or customize them using the Custom Dialog Builder, available from Utilities>Custom Dialogs>Custom Dialog Builder. To view the design for a dialog, choose File>Open Installed from within the Custom Dialog Builder.

- If you have specified alternate locations for extension commands with the *SPSS_EXTENSIONS_PATH* environment variable then the implementation and specification files will be located in the first writable location in that variable instead of in the *extensions* directory.

- You may need to set your SPSS Statistics locale to match the SPSS Statistics output language (OLANG) in order to display extended characters properly, even when working in Unicode mode. For example, if the output language is Japanese then you may need to set your SPSS Statistics locale to Japanese, as in SET LOCALE='japanese'.

- Other extension commands that are not included in Essentials for R are available for download from the SPSS community.

Repairing an installation

If you uninstall and then reinstall the IBM® SPSS® Statistics 21 application or R 2.14, then please uninstall and then reinstall version 21 of IBM® SPSS® Statistics - Essentials for R.

Uninstalling IBM SPSS Statistics - Essentials for R components

▶ Uninstall IBM SPSS Statistics - Essentials for R 21 from the Windows Control Panel.

▶ Uninstall R version 2.14 from the Windows Control Panel, if desired.