IBM SPSS Statistics Server for UNIX Installation Instructions

System Requirements

The minimum hardware and software requirements for IBM® SPSS® Statistics Server are as follows:

■ **Hardware and operating system.** See the following table for supported operating systems and processor architectures.

Table 1-1
Supported UNIX and Linux operating systems and processor architectures

OS	Version	x86	x64	s390x*	PowerPC	SPARC	IA-64**
IBM® AIX®	6.1				X		
IBM AIX	7.1				X		
HP-UX	11i v3						X
Red Hat Enterprise Linux	5	X	X	X			
Red Hat Enterprise Linux	6	X	X	X			
Sun Solaris	9					X	
Sun Solaris	10					X	
SUSE Linux Enterprise Server	10		X	X			
SUSE Linux Enterprise Server	11		X	X			

* Linux for IBM® System z®
** Intel Itanium Architecture

■ **Minimum free disk space.** AIX: 1 giabyte (GB) for installation; Linux: 800 megabytes (MB) for installation; Solaris: 900 MB for installation; HP-UX: 1.4 GB for installation. Because the installer extracts files before installing, the same amount of temporary disk space is also needed for the installer. If you don't have enough space in */tmp* or the installing user's home directory, use the IATEMPDIR environment variable to specify a different temporary location for the extracted installer files. You can remove this folder after installation. Additional free disk space is required to run the program (for temporary files). The amount of space needed for temporary files depends on the number of users, the expected size of the *.sav* file, and the procedure. You can use the following formula to estimate the space needed: <number of users> * <*.sav* file size> * <factor for procedures>, where <factor for procedures> can range from 1 to 2.5. For example, for procedures like K-Means Cluster Analysis (QUICK CLUSTER), Classification Tree (TREE), and Two-Step Cluster Analysis (TWOSTEP CLUSTER), the <factor for procedures> is closer to 1 than 2.5. If sorting is involved, it is 2.5. So, if you have four users, the expected *.sav* file size is 100 MB, and sorting is involved, you should allow 1 GB (4×100 MB $\times 2.5$) of storage for temporary files.

■ **Minimum RAM.** 2 gigabytes (GB).

■ If using physical installation media, a DVD-ROM drive.

■ A network adaptor running the TCP/IP network protocol.

Client software. The client software must be at the same release level as the SPSS Statistics Server software.

Note: We recommend that you install a copy of the client software on your Windows desktop computer. You may need it to test the SPSS Statistics Server connection and to test the data sources that you configure. It might also be useful for diagnosing other problems. If you downloaded SPSS Statistics Server, you can also download the client. If you have physical installation media, your product package contains a client installation disk. Please do not install the client on the same computer as SPSS Statistics Server.

Additional Requirements

AIX. The AIX IBM® SPSS® Statistics Server requires:

■ AIX Version 6.1 or 7.1. You can use the oslevel -r command to check the version. The output from the command should be 6100-00 or higher.

■ The XL C++ runtime, version 11.1.0.1 or higher (lslpp -l xlC.rte). The filesets that contain the libraries can be downloaded from *http://www.ibm.com/software/awdtools/xlcpp/support/*.

■ The XL FORTRAN runtime (XL Fortran Enterprise Edition V12.1 for AIX Runtime Environment), version 13.1.0.1 or higher (lslpp -l xlfrte). The filesets that contain the libraries can be downloaded from *http://www.ibm.com/software/awdtools/fortran/xlfortran/support/*.

Red Hat Linux. The Red Hat Linux SPSS Statistics Server requires:

■ Red Hat Enterprise Linux 5 or 6, with Linux kernel version 2.6.28-238.el5 or higher.

■ libgfortran.so.1

If you don't see *libgfortran.so.1* in */usr/lib*:

▶ Obtain a software package that contains *libgfortran.so.1.0.0* compiled for your processor architecture.

▶ Extract the contents of the software package.

▶ Copy the extracted *libgfortran.so.1.0.0* file to */usr/lib*.

▶ Create a symbolic link from *libgfortran.so.1.0.0* to *libgfortran.so.1*.

SUSE Linux. The SUSE Linux SPSS Statistics Server requires:

■ SUSE Linux Enterprise Server 10 or 11, with Linux kernel version 2.6.16.60-0.76.8-smp or higher.

■ libgfortran.so.1

For more information about *libgfortran.so.1*, see the section above for Red Hat Linux.

Solaris. The Solaris SPSS Statistics Server requires:

■ 64–bit Solaris version 9 or 10. Operating system patches are required as shown in the following table. Solaris patches can be downloaded from Oracle's support web site.

Table 1-2
Solaris required patch levels

Operating system	Patch ID
Solaris 2.9 (64-bit)	111712-06 (requires 111711-06)

HP-UX The HP-UX SPSS Statistics Server requires:

■ HP-UX 11i 64-bit v3 (11.31) or higher. You can use the uname -r command to check the version. The output from the command should include B.11.31 or higher.

Locales for UNIX Servers. The IBM® SPSS® Statistics Server locale is automatically synchronized with the client locale according to mappings defined in the *loclmap.xml* file, which is located in the */bin* subdirectory of the SPSS Statistics Server installation directory. If you need to add locales specific to your system or you need to change the order in which SPSS Statistics Server looks for an appropriate locale, you can modify *loclmap.xml*. You can also issue the SHOW LOCALE command to display the locale that the SPSS Statistics Server is using. For more information about locales, see the *IBM SPSS Statistics Server Administrator's Guide* (on the CD-ROM in */Documentation/<language>/Manuals*).

Upgrading

If you do not currently have IBM® SPSS® Statistics Server installed on the target computer, skip to Installing on p. 4 . If you do have an installation on the target computer, decide whether to:

■ Replace the current version. You must replace the old version if the new version is a minor release compared to the old version. You can check if the release is minor by looking at the first two parts of the version number. If these are the same as the installed version, the new version is a minor version compared to the installed version. For example, if the new version is 16.0.1 and the old version is 16.0, the new version is a minor release and you must replace the old version.

or

■ Install the new version in addition to your current version. You can install the new version in addition to the old version if the new version is a major release compared to the old version. For example, if the new version is 16.0 or 16.0.1 and the old version is 15.0, you can install the new version in addition to the current version.

To Replace the Current Version

► Back up your existing configuration file (*statisticsd.conf*) to another location. You can use the administration console to check the location of your configuration file.

► Remove the old version. Follow the steps in Uninstalling on p. 8 .

► Install the new version. Follow the steps in Installing on p. 4 .

▶ Compare your old configuration file with the new configuration file and transfer any options settings that you want to preserve in the new file. Do not replace the new file with the old one.

To Add the New Version

▶ Follow the steps in Installing on p. 4 , with the following comments.

- **Destination directory**. Install the new version in the different location from the old version.

- **Port number.** Use a different port number for the new version. By default, a different port number is set for the new version.

- **Temporary files**. Use the same temporary file location for both versions. By default, the same location is used for both versions.

The port number and temporary file location are specified in the administration console. Refer to the *IBM SPSS Statistics Server Administrator's Guide* for more information.

Whenever you install a new version, be sure to distribute SPSS Statistics Server product's host name and port number to the end users.

Installing

▶ **If using physical installation media, prepare the DVD drive.** Insert the product DVD into the DVD drive and ensure that you can access the drive. On Solaris, the volume manager (the **vold** daemon) must be running.

▶ **If using downloaded installation media, extract the installation files.** The downloaded media file is a compressed archive. Extract the files in the archive.

▶ **Check hard drive space.** In addition to the permanent hard drive space specified in System Requirements on p. 1 , you need temporary disk space for the installer files. The installer files are extracted to your system's temporary folder. If there is not enough space in the temporary folder, the installer files are extracted to your home folder. If neither location has enough space, the installer cannot continue. In this case, you can temporarily set the IATMPDIR environment variable to a location with adequate space. This location should have at least 1 gigabyte (GB) of free space.

▶ **Check the destination directory.** By default, SPSS Statistics Server is installed to */opt/IBM/SPSS/StatisticsServer<version>*. If desired, you can change this path in the graphical installation wizard or the command line installation. If you are going to run the silent installer, you can set the value for USER_INSTALL_DIR in *installer.properties*. Regardless, you need read and write permissions to the installation directory, so log on with an account that has sufficient permissions. *Note*: If you are upgrading by adding a new version of the product, install the new version in a separate directory.

▶ **If using physical installation media, copy the installer file.** Copy the installer file from the DVD to a directory on the server machine. The installer files are located in *UNIX/InstallationFiles* directory at the root of the DVD.

Note: The name of the file depends on the specific release and platform.

▶ **Change execute permissions of installer.** Be sure that the installer is executable by the user who will run the installer.

▶ **Run the installer.** You can run the installer in a graphical user interface, from the command line, or silently. Instructions for each method appear below.

Graphical installation wizard

The graphical installation wizard displays a graphical interface that will ask you about installation parameters. You will need an X Window System.

▶ At the UNIX prompt, change to the directory where the installer file was copied or extracted:

▶ Run the installer by executing the following command:

./<installer_name>

▶ After the installation wizard is launched, follow the instructions that appear on the screen.

Command line installation

The command line installation uses command prompts to specify installation parameters.

▶ At the UNIX prompt, change to the directory where the installer file was copied or extracted:

▶ Run the installer by executing the following command:

./<installer_name> -i console

Where *<installer_name>* is the installer *.bin* file.

▶ Follow the instructions that appear on the screen.

Silent installation

Silent mode enables the installation without any user interaction. Installation parameters are specified as a properties file.

▶ If you have physical installation media, copy *installer.properties* from the *UNIX/Administration* directory at the root of the DVD to the same location where you copied the installer.

▶ Go to the location where you copied or extracted the installer files and open *installer.properties* in a text editor.

▶ Set the value for USER_INSTALL_DIR to the desired installation directory. The directory path cannot contain spaces. If you want to install to the default installation directory, comment out this line; do not leave it set to <value>.

▶ Save the file.

▶ Run the installer by executing the following command:

./<installer_name> -f installer.properties

Where *<installer_name>* is the installer *.bin* file.

IP Address

If the server machine has multiple IP addresses, IBM® SPSS® Statistics Server just picks one to use. This might not be the one you want to use. However, you can configure SPSS Statistics Server to use the correct one. Also, if you want SPSS Statistics Server to service multiple IP addresses, you must install SPSS Statistics Server on the server machine in multiple directories. You must then configure each SPSS Statistics Server installation to service one of the IP addresses. Use the administration console to configure SPSS Statistics Server to use the correct IP address.

After You Install IBM SPSS Statistics Server

This section describes some required and optional steps that you can perform after installation. It does not describe all possible configuration options. You can find information about all the configuration options in the *IBM SPSS Statistics Server Administrator's Guide*.

Starting the Process

IBM® SPSS® Statistics Server runs as a daemon process and has root privileges by default. SPSS Statistics Server can be configured to run without root privileges using internal authentication, with some consequent restrictions on client connections. Refer to the *IBM SPSS Statistics Server Administrator's Guide* for more information.

To Start IBM SPSS Statistics Server

SPSS Statistics Server must be started by the **root user** or the user who owns the analytic server software daemon. Start the application by running a startup script, *start_statistics_server*, which is included in the */bin* subdirectory of the installation directory. The startup script configures the environment for and executes the software.

▶ Log in as *root* or the user who owns the analytic server software daemon.

▶ Change to the */bin* subdirectory of the SPSS Statistics Server installation directory. The startup script must be run from this location.

▶ Run the startup script. For example, at the UNIX prompt type:

./start_statistics_server -d

The -d parameter starts the application as a daemon process, which is the recommended way to run the software.

Note: If you are running another IBM® SPSS® Statistics Server product on the same computer, be sure to start each product from its installation directory, as shown in the above steps. Also, be sure to start SPSS Statistics Server with a script that defines its environment; do not define the environment in an external script (for example, do not define the SPSS Statistics Server environment in *.profile*).

Additional options are recognized on the script's command line. For more information, see the *Configuration, Monitoring Usage, and Maintenance* chapter in the *IBM SPSS Statistics Server Administrator's Guide*.

Checking the Server Status

Use the ps command to get information about what server processes are running and to report process status. For example:

► At the UNIX prompt, type:

ps –ef | grep statisticsd

► Look at the output. If the server is running, you will see it as the first process in the list.

IBM® SPSS® Statistics Server is now ready to accept connections from end users.

Connecting End Users

End users connect to IBM® SPSS® Statistics Server by logging in from the client software. See the *IBM SPSS Statistics Server Administrator's Guide* for a description of how the software works and what you need to do to administer it. You must give end users the information that they need to connect, including the IP address or host name of the server machine.

Example Files

Example files are installed in the IBM® SPSS® Statistics Server installation directory. They are available for end users who connect to the Server and want to test the software.

Administration Console Application

The administration console application is IBM® SPSS® Statistics Administration Console, which uses the framework for IBM® SPSS® Collaboration and Deployment Services Deployment Manager. The SPSS Statistics Administration Console collects and displays information about IBM Corp. server products. It also allows you to control and configure server software, including IBM® SPSS® Statistics Server. The SPSS Statistics Administration Console is available for download or included on your DVD.

Although it must be run on Windows, the administration console application administers IBM SPSS server software on all supported operating systems, including UNIX.

IBM SPSS Data Access Pack Technology

IBM® SPSS® Statistics Server has a **distributed architecture** that uses **ODBC** to access data. You can use IBM® SPSS® Data Access Pack for accessing data. IBM SPSS Data Access Pack is available for download or from the DVD.

For information about the data access technologies, including information on choosing, installing, and deploying a technology, refer to the *IBM SPSS Data Access Pack Installation Instructions for UNIX*.

There is additional information in the DataDirect online documentation, which includes Adobe Acrobat versions of detailed installation instructions, administration information, and ODBC reference guides. These documents are highly recommended if you plan to use IBM SPSS Data Access Pack technology.

DataDirect's product documentation for Connect ODBC can be found under the directory where you extracted the files.

Note: The documentation can also be accessed from the DataDirect home page at *http://www.datadirect.com/index.ssp*.

Configuring IBM SPSS Statistics Server for Data Access

If you want to use the IBM® SPSS® Data Access Pack with IBM® SPSS® Statistics Server, you will need to configure the startup scripts. This is a critical step because data access will not work otherwise. For instructions, refer to the *IBM SPSS Statistics Server Administrator's Guide*.

IBM SPSS Statistics Batch Facility

The IBM® SPSS® Statistics Batch Facility is a batch-processing utility included with SPSS Statistics Server. The SPSS Statistics Batch Facility is intended for automated production of statistical reports. Automated production provides the ability to run SPSS Statistics analyses without user intervention.

The SPSS Statistics Batch Facility is automatically installed with SPSS Statistics Server.

The SPSS Statistics Batch Facility is distributed with a manual page, *statisticsb.1*, which is installed in the */bin* subdirectory of the installation directory. Copy it to the location in which you keep your manual pages.

For information about administering the SPSS Statistics Batch Facility, see the *IBM SPSS Statistics Server Administrator's Guide*. For information about using the SPSS Statistics Batch Facility, see the *SPSS Statistics Batch Facility User's Guide*.

Uninstalling

Uninstall IBM® SPSS® Statistics Server by removing the program files.

To Remove the Program Files

▶ Stop the server process. Instructions for stopping the server process are in the *IBM SPSS Statistics Server Administrator's Guide*.

▶ Remove the installation directory.