

Installation Instructions for SAS[®] 9.4 Electronic Software Delivery for Basic Installations on z/OS



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Installation Instructions for SAS® 9.4 Electronic Software Delivery for Basic Installations on z/OS

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Before You Begin—Prerequisites

This document provides all of the information related to downloading and installing a SAS 9.4 Electronic Software basic order on z/OS systems for which you have purchased licenses. Please review this document before you begin your installation.

Because the SAS 9.4 Electronic Software Delivery download site limits the number of downloads that may be performed per order, the process of downloading your software from SAS should not be used as a mechanism for distributing your software across your organization. If you need to distribute the software image internally, download it to a networked location that is available to all systems where the software needs to be installed. Alternatively, you can create your own media from your downloaded image.

You **MUST** complete each of the required items below **before** beginning your SAS installation. The following topics are discussed in this section:

- Verify System Requirements (pg. 1)
- Review Installation Alert Notes (pg. 1)
- Have Your Software Order E-mail (SOE) Available (pg. 2)
- Use Your Current SAS Installation Data Files (SID files) (pg. 2)
- Review and Understand Terminology (pg. 2)
- Determine Target Location for Initial Download of Your SAS Software Depot (pg. 3)
- Define Sufficient UNIX File System Space (pg. 3)
- Ensure that the User ID for the Installation Meets Requirements (pg. 3)
- Choose Whether to Use an X11 Server (pg. 4)
- Verify the Installed Version of Java (pg. 4)
- Review SAS/IntrNet Installation Options (Optional Step) (pg. 4)
- Select Which SAS/GRAPH Map Data Sets to Install (Optional Step) (pg. 4)

Prerequisites

Verify System Requirements

Confirm that your system meets the minimum requirements by referring to the system requirements from the SAS 9.4 Install Center Documentation web site (<http://support.sas.com/documentation/installcenter/94/index.html>) and selecting **Documentation for SAS 9.4 Installation on z/OS**.

Review Installation Alert Notes

On the <http://support.sas.com/notes/index.html> web page, click **Search Installation Notes**. Select the **Results Filter** tab, and then select **alert** as the Priority, **9.4** as the SAS Release and **z/OS** as the Operating System. Then press **Enter**.

Review the Installation Alert Notes that are listed to see if they apply to this installation order.

Have Your Software Order E-mail (SOE) Available

To install SAS 9.4 on z/OS, start with the Software Order E-mail (SOE) you received from SAS Institute. This e-mail contains details such as the order number, a key, and the type of installation you have: Basic or Planning. Basic orders are generally straightforward single-machine deployments. Planning orders are more complex, multi-machine deployments. This document is for a **basic** order.

Use Your Current SAS Installation Data Files (SID files)

The SAS Software Depot includes one or more SAS installation data (SID) file or files as part of your software download. A SID file is valid for a limited time and consists of customized installation information and product authorization information. The SAS Deployment Wizard uses the installation information in a SID file to install your licensed software and apply customized product authorization information to your system. SID files follow a naming convention in which a file called `sas94_XXXXXX_YYYYYYYY_zzz.txt` would mean `XXXXXX` is your order number, `YYYYYYYY` is your setnumid (a unique identifier used by SAS Technical Support), and `zzz` is the operating system for which the order is licensed.

The SID files for your software order will be located in the `sid_files` directory at the root of your SAS Software Depot.

If your order is more than 90 days old, the SID file shipped with the order may have expired. Check your SOE for the expiration date of the SID file in your order. If it has expired, contact your SAS site representative who may have received a Renewal Software Order E-mail that will contain a more recent SID file. Once you have created your SAS Software Depot, put the updated SID file in the `sid_files` directory in your SAS Software Depot. If the site representative does not have an updated SID file, please have the site representative contact SAS Customer Service at 1-800-727-0025 (press option 3).

Review and Understand Terminology

- SASHOME Location

SASHOME is the UNIX directory location where the UNIX file system components of your SAS software are installed on your machine. SASHOME is specified when you install software through the SAS Deployment Wizard for the first time, and that location becomes the default installation location for any other SAS software you install on the same machine. You will need about 3 GB of UNIX file system space for your SASHOME directory.

Many sites prefer to have SASHOME in a separate UNIX file system than their SAS Software Depot. This allows you to easily archive the SAS Software Depot and reuse that disk space. The directory path for your SASHOME location cannot be a directory within your SAS software depot.

Note: The length of the SASHOME path is limited to 54 characters.

Note: The SASHOME directory is an integral part of the SAS 9.4 installation and **MUST** be kept mounted on your z/OS system as part of the finished SAS installation for some functionality within SAS to work correctly.

- SAS Deployment Wizard

The SAS Deployment Wizard is the common interface used to install and deploy all SAS 9.4 software. Using the SAS Deployment Wizard, you interact with the SAS Software Depot, the repository of files and data necessary to install your SAS 9.4 software. You will invoke the SAS Deployment Wizard on each system that is part of your SAS software deployment.

- SAS Software Depot

The SAS Software Depot is a collection of SAS installation files that represents one or more orders. The SAS Software Depot is organized in a specific format that is meaningful to the SAS Deployment Wizard, which is the tool that is used to install and initially configure SAS. The SAS Software Depot contains the SAS Deployment Wizard executable, one or more deployment plans, a SID file, order data, and product data. *Please see your Software Order E-Mail for the space required for the SAS Software Depot for your order.*

Determine Target Location for Initial Download of Your SAS Software Depot

Before you download the SAS Download Manager, you must first determine a location where you will store your SAS Software Depot. This may be:

- A directory on Windows or UNIX which you can FTP to a UNIX File System directory on z/OS.
- A UNIX File System directory on the z/OS machine.
- A UNIX File System remote directory that is accessible to the z/OS machine via an NFS mount.

Define Sufficient UNIX File System Space

Your SAS installation requires the following space defined in UNIX file system directories:

- SAS Software Depot
The SAS Software Depot is a collection of SAS installation files that represents one or more orders. The SAS Software Depot is organized in a specific format that is meaningful to the SAS Deployment Wizard, which is the tool that is used to install and initially configure SAS. The SAS Software Depot contains the SAS Deployment Wizard executable, one or more deployment plans, a SID file, order data, and product data. *Please see your Software Order E-Mail for the space required for the SAS Software Depot for your order.*

This directory must be available to z/OS. It can be:

- A UNIX File System directory on the z/OS machine.
- A UNIX File System or Windows remote directory that is accessible to the z/OS machine via an NFS mount.

You do not need the SAS Software Depot after you have completed installing and configuring your SAS software. You can archive your SAS Software Depot to tape using the process documented in SAS Note SN 37119

(<http://support.sas.com/kb/37/119.html>).

- SASHOME directory
The SASHOME directory is an integral part of the SAS 9.4 installation. You may want to have your SAS Software Depot and SASHOME directory in separate UNIX file system spaces so that you can easily recover the space from your SAS Software Depot after installation. For a SAS foundation only installation, 3 GB should be allowed for the SASHome directory.

Ensure that the User ID for the Installation Meets Requirements

The user ID used for downloading your software or for installing SAS 9.4 must meet specific requirements:

- Must have a home directory that is not root.
- Must have a default program shell defined.

- Must not be a superuser.
- Must not share a UID with other user IDs.

The user IDs that will be running either the SAS Download Manager or SAS Deployment Wizard to install SAS 9.4 Foundation for z/OS require a larger region setting:

- If running under OMVS, a TSO region size and ASSIZEMAX setting of at least 1 GB.
- If running UNIX-style commands using rlogin, putty, or telnet, an ASSIZEMAX setting of at least 1 GB.

Note: *This note applies only when the SAS Software Depot is downloaded directly to a z/OS UNIX File System directory.*

To increase the amount of CPU time available to the SAS Download Manager download process, set the CPUTIMEMAX value in the user ID's OMVS segment to at least 5000. The amount of CPU time required to download the software varies depending on the size and number of products in the order. If the SAS Download Manager receives a SIGXCPU error, you may restart the SAS Download Manager to continue a download that was already in progress.

Choose Whether to Use an X11 Server

The SAS Download Manager for z/OS and the SAS Deployment Wizard have graphical user interfaces which require the use of an X11 server, if available. At many sites, this software is already available and running on a UNIX and/or Windows system. X11 software is available from commercial and shareware sites.

If you do not have access to an X11 server, you may be able to use the SAS Download Manager and the SAS Deployment Wizard in console mode, allowing you to use a headless system to configure your server. If you use console mode, each dialog used in the deployment of your SAS software is represented in text. Console mode cannot be used on your middle tier.

For more information about X11 server minimum version requirements, see the web page entitled "SAS 9.4 Support for Additional Software Products" at

http://support.sas.com/resources/thirdpartysupport/v94/other/sw.html#tab_x11.

Verify the Installed Version of Java

Having an installed Java level that is supported by SAS is required for a basic installation. See the *Configuration Guide for SAS 9.4 Foundation for z/OS* at

<http://support.sas.com/documentation/installcenter/94/mvs/index.html> for information about which functions of SAS require Java. You can check SAS's third party support web page for information about the latest supported versions of Java at

<http://support.sas.com/resources/thirdpartysupport/>. Or refer to the Java Requirements in the *System Requirements for SAS 9.4 Foundation for z/OS* at

<http://support.sas.com/documentation/installcenter/en/ikfdtnmvssr/66198/PDF/default/sreq.pdf>.

Review SAS/IntrNet Installation Options (Optional Step)

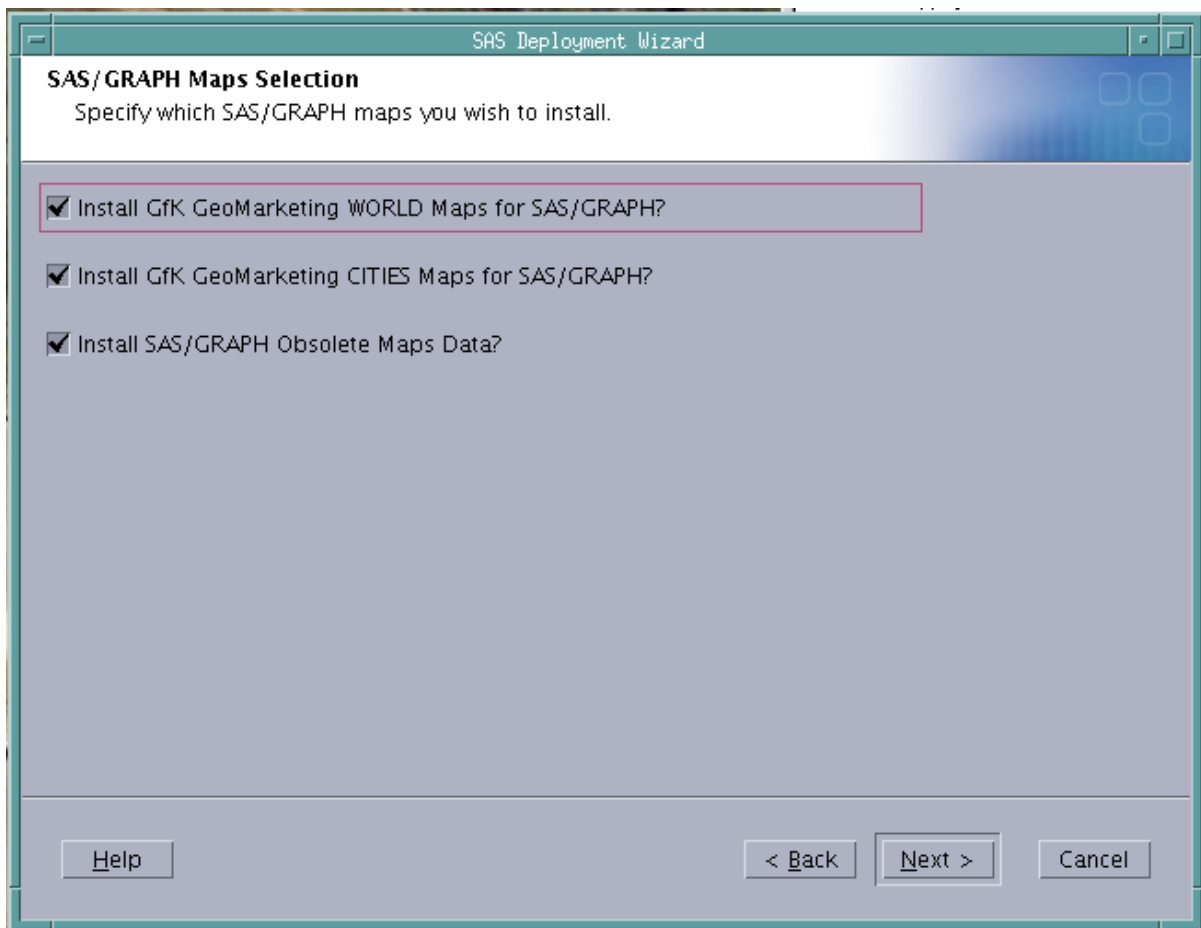
If your order includes SAS/IntrNet, review the section on SAS/IntrNet in the *Configuration Guide for SAS 9.4 Foundation for z/OS* so that you are prepared to enter the appropriate values for your web server directory paths and URL values.

Select Which SAS/GRAPH Map Data Sets to Install (Optional Step)

Starting in the third maintenance release of SAS 9.4, if your site is licensed for SAS/GRAPH, you have the option to select which SAS/GRAPH Map products to install. SAS has split out the Map data sets that were included in SAS/GRAPH in order to help users save space by choosing which Map data sets they want to install. These options allow you to select which of the SAS/GRAPH Maps products you wish to install. For information about Maps data set space, refer to the *System Requirements for SAS 9.4 Foundation for z/OS* at the SAS 9.4 Install Center Documentation web site:

(<http://support.sas.com/documentation/installcenter/94/index.html>) and select **Documentation for SAS 9.4 Installation on z/OS**.

If your site is licensed for SAS/GRAPH, when you run the SAS Deployment Wizard, the **SAS/GRAPH Maps Selection** dialog box will appear:



The Map products can be selected in any combination.

- **GfK GeoMarketing WORLD Maps for SAS/GRAPH** contains the new Map data sets which replace SAS/GRAPH Obsolete Maps Data. In order to use PROC GMAP, you must install either GfK GeoMarketing WORLD Maps for SAS/GRAPH or SAS/GRAPH Obsolete Maps Data, or both

- **GfK GeoMarketing CITIES Maps for SAS/GRAPH** contains the Map data sets that are used by PROC GEOCODE. If these maps are not installed, then some of PROC GEOCODE will work (such as ZIP code support) but cities support will not work
- **SAS/GRAPH Obsolete Maps Data**

Note: If you install all 3 SAS/GRAPH Map data sets, additional space is used. For more information on the required space for SAS/GRAPH Map data sets, refer to the System Requirements for SAS 9.4 Foundation for z/OS at the SAS 9.4 Install Center Documentation web site:

(<http://support.sas.com/documentation/installcenter/94/index.html>) and select **Documentation for SAS 9.4 Installation on z/OS**.

Note: To remove or re-install SAS/GRAPH Maps, see the SAS Note SN 55984 available at <http://support.sas.com/kb/55/984.html>.

Installation Process

Overview

The installation process consists of the following steps:

- Step 1.** Creating the SAS Software Depot
- Step 2.** Installing and Maintaining Your Software
- Step 3.** Validate Installation and Post-configuration
- Step 4.** Archiving Your SAS Software Depot

Follow these steps in order to install your SAS software.

Step 1. Creating the SAS Software Depot

SAS Download Manager

The SAS Download Manager is the application you must use to download your software from the SAS 9.4 Electronic Software Delivery download site to create your SAS Software Depot. It is a Java-based client that, once installed, can download selected SAS orders to your SAS Software Depot location. You **must** download the latest version of the SAS Download Manager for this order, and not use any previous version you may have installed.

Important:

- You should download the SAS Download Manager for the operating system to which you plan to initially download the SAS Software Depot.
- You may download your SAS Software Depot to Windows or UNIX instead of z/OS

ONLY IF

- you can use a UNIX file system directory on the z/OS system (for example, via NFS mount).
or
- you can FTP your SAS Software Depot to z/OS, using either a third-party utility that can transfer a complete directory tree, or our provided utility, the SAS Software Copy Utility, which is provided in your SAS Software Depot. You can find instructions for this utility in the *SAS Deployment Wizard and SAS Deployment Manager 9.4: User's Guide* at <http://support.sas.com/documentation/installcenter/94/mvs/index.html>.

Download and Install the SAS Download Manager

Download the SAS Download Manager for the target system for the download.

Note: To download directly to z/OS, you must download the z/OS SAS Download Manager. This utility can be used interactively with an X11 server, or in headless mode.

Based on the location and platform where you plan to store the SAS Software Depot, click **SAS Download Manager** from the SUPPORT/DOWNLOADS & HOT FIXES web site at <http://support.sas.com/demosdownloads/setupcat.jsp?cat=SAS+Download+Manager>. Click **Request Download** for the appropriate platform to see the license terms and download the SAS Download Manager. You will be required to register with the SAS support site if you are not registered already. Then log in to the site to begin the download process.

SAS recommends that you retrieve a copy of the **readme** file on this page as well, since it contains the instructions for executing this application on your operating system.

Create Your SAS Software Depot Using the SAS Download Manager

When you are ready to start the download to your SAS Software Depot, follow the instructions in the **readme** file to start the SAS Download Manager. When prompted, provide the order number and SAS installation key which appear on your SAS Software Order E-mail.

When the SAS Download Manager has completed, it will have created a SAS Software Depot in the location you indicated in the SAS Download Manager dialogs. In addition, the installation process creates a **depotsummary.html** document at the root directory of your SAS Software Depot. This document describes the contents of the SAS Software Depot.

Make Your SAS Software Depot accessible to z/OS

If you did not download directly to z/OS, you must make the SAS Software Depot accessible to z/OS by either:

- NFS mount the directory on z/OS, **or**
- Use the SAS Software Depot Copy Utility, **or**
- Transfer the SAS Software Depot to z/OS using a third-party utility such as Filezilla, WS-FTP, Blue Zone, etc., that can move a complete directory tree.
 1. FTP the entire directory tree, ensuring that all files are transferred in binary to a z/OS UNIX File System directory, and the case of all file names is preserved.
 2. Be sure to set the execute bits after moving from Windows. Execute the following command:

```
chmod -R a+r+x <SAS Software Depot Location>
```
- Alternatively, if the SAS Depot is stored on UNIX, follow these steps:
 1. Create a tar file of your existing SAS Software Depot on your UNIX machine. Execute the following command:

```
tar -cvf <SAS Software Depot Location> <tar file name>
```
 2. FTP the tar file created in the previous step to z/OS in binary format.
 3. Extract the SAS Software Depot on z/OS in the zFS directory where you want the SAS Software Depot created. Execute the following command from OMVS or rlogin:

```
tar -xvf <tar file name>
```

Note: The "v" option used in the tar commands is for "verbose." Information is displayed back to the terminal about each file as it is processed. It is not required.

Step 2. Installing and Maintaining Your Software

The remainder of this document describes the installation and maintenance (where applicable) process in detail. At this point you should have reviewed and completed all of the pre-requisites for this installation previously documented.

Installation Action—Action A, Action B, or Action C

The installation process will prompt you for an installation action to choose. Determine which one of these installation actions below apply to this installation.

- **Action A** is for a new installation—if you do not currently have SAS 9.4 installed on your system at all.
When you perform a new installation (Action A), the SAS Deployment Wizard will also install any hot fixes included in the order.
Orders that are downloaded include hot fixes selected by SAS as being appropriate for the SAS Deployment Wizard to install during a deployment.
Note: Orders received on DVD do not initially include hot fixes.
- **Action B** installs maintenance or new products directly into your existing production SAS 9.4 libraries and directories. If you are both applying maintenance and installing new products, you **must** invoke the SAS Deployment Wizard **twice**.
- **Action C** is used when adding maintenance or new software products to an existing installation. This action installs the updates in staged libraries allowing you to test before copying the updates to production. If you are both applying maintenance and installing new products, you **must** invoke the SAS Deployment Wizard **twice**.

Important Notes

- Do **not** log in to z/OS as a superuser (sometimes called “root” or “UID(0)”).
- The user ID that will be running the SAS Deployment Wizard to install SAS 9.4 Foundation for z/OS must have the same requirements as noted in “Ensure that the User ID for the Installation Meets Requirements” on page 3.
- If you are applying maintenance or adding software to an existing installation, you must stop all SAS servers and processes before updating your installation.
- If you select **Action B** or **Action C**, you **must** use the same high-level qualifier that you specified with the original installation.
- If you select **Action B** or **Action C**, additional temporary cylinder space is required. Refer to the *System Requirements for SAS 9.4 Foundation for z/OS*. After the installation is finished, this space will be released back to the system.

Installation Step

1. By default, the SAS Deployment Wizard will run using a text-based interface and will create the installation batch jobs for you but will not execute them. Before you start the SAS Deployment Wizard, you must decide whether you will use a graphical user interface or a text-based interface, and whether the SAS Deployment Wizard will run the installation batch jobs for you.
 - a. **Using the graphical interface:** If you want to use a graphical user interface in the SAS Deployment Wizard, you must use an X11 server.

If you will be using an X11 server, set the DISPLAY environment variable to point to your X11 server. Issue the following case-sensitive command from the z/OS UNIX shell on your z/OS system before starting the SAS Deployment Wizard:

```
export DISPLAY=<your X11 server name>:0.0
/<SAS Software Depot>/setup.rexx -x11
```

Note: If you do not issue this command, *setup.rexx* will prompt you for the server name. Make sure that the X11 server is started on your workstation before starting the install.

- b. **Using the text-based interface:** If you choose not to use the x11 interface, the dialog screens that would have been displayed are represented in text.

When you run the SAS Deployment Wizard in the default text-based or console mode to perform a deployment without a graphical display, ensure that the DISPLAY environment variable is unset, as opposed to it being set to a blank value (that is, DISPLAY=).

For example:

```
unset DISPLAY
/<SAS Software Depot>/setup.rexx
```

Note: During execution in text or “console” mode, if you are instructed to enter a sequence that includes angle brackets, such as “Enter <q> to quit,” you must include those symbols.

- c. **Batch jobs can be submitted manually or by the SAS Deployment Wizard:**
- By default, the SAS Deployment Wizard will create the installation batch jobs for you but will not submit them. By default, SAS install jobs are chained. In order to force each job to be submitted manually, use the -nojobchain option. The -nojobchain option is ignored if -jobsubmit is specified. If you use the -jobsubmit option, the SAS Deployment Wizard will:
 - i. Assign the same job name xxxxxxA to each job it automatically submits, where: xxxxxx is assigned the installer user ID “A” – suffix assigned to the installer user.
 - ii. Use the FTP JES interface to track the progress of each job, and in particular determine when they have completed.

If any of the following conditions are true, you will not be able to use the –jobsubmit option, and you must submit the installation batch jobs manually:

 - ⊗ Your site uses JES3 (not JES2), **or**
 - ⊗ Your FTP server is configured for JESINTERFACELEVEL=2, **or**
 - ⊗ The SAS installer ID is not authorized to use FTP, **or**
 - ⊗ You need to make site-specific changes to the JCL or wish to review the JCL before submission, **or**
 - ⊗ The FTP JES interface’s requirement that the job name be the user ID performing the install suffixed with a single letter or digit is incompatible with your site’s job name requirements.
 - Beginning in SAS 9.4 (TS1M4), Rev. 940_17w08, if you use the -jobsubmit option, the SAS Deployment Wizard will:
 - No longer prompt for the host name, user ID and password.
 - Allow you to use the -jobsubmit option with both JES2 and JES3

- Use the JES SYSOUT API (SAPI) to track the progress of each job, and in particular determine when jobs have completed.

Examples:

To have the SAS Deployment Wizard submit and monitor the installation batch jobs:

```
/<SAS Software Depot>/setup.rexx [-x11] -jobsubmit
```

To submit the jobs manually after the SAS Deployment Wizard completes:

```
/<SAS Software Depot>/setup.rexx [-x11]
```

To submit the jobs manually and specify that they are not chained after the SAS Deployment Wizard completes :

```
/<SAS Software Depot>/setup.rexx [-x11] -nojobchain
```

2. Invoke the SAS Deployment Wizard on your z/OS system, from OMVS, rlogin, or putty. You cannot execute it from ISHELL.

```
/<SAS Software Depot>/setup.rexx [-x11] [-jobsubmit]
```

- Use the Help button or <h> command for more information about the choices available in each page.
 - For more detailed information, please see the SAS Deployment Wizard and SAS Deployment Manager User's Guide, available from the Install Center at <http://support.sas.com/installcenter>.
 - Continue through the dialogs or prompts until the SAS Deployment Wizard completes.
3. If you installed without specifying `-jobsubmit`, after the SAS Deployment Wizard has completed with all green check marks or "S" indicating "Completed Successfully", run the series of jobs indicated in the JOBINDEX member of the <HLQ>.INSTALL.CNTL data set. The number of batch jobs will vary based on the content of your order. The member JOBINDEX in the <HLQ>.INSTALL.CNTL data set will contain the list of jobs that must be executed.

- i. You may want to edit each of the jobs listed in the JOBINDEX member of the INSTALL.CNTL data set to provide any required site-specific accounting information, etc. You may also want to edit the user-defined fields in the JCL statements (such as UNIT values, SMS classes, etc.), to conform to standards used at your site.
- ii. Submit the first job. Each job will submit the subsequent job as its final step. If you want to submit each job individually, you will need to edit the last step that submits the next job through the internal reader. Just delete the IEBGENER step at the end.

Note: After submitting an install job, the <HLQ>.INSTALL.CNTL library cannot be open in edit mode. The job will wait until it can get exclusive access (DISP=OLD) to the <HLQ>.INSTALL.CNTL library.

- iii. A separate job named INSTHELP is written to <HLQ>.INSTALL.CNTL and is an **optional** job to run. It represents the online help documentation and depending on your system and other jobs running, could take an hour or more to complete. If you choose to run this job, we recommend that it be run **after** the initial installation has completed.

Updating an Existing Installation

If you are adding a new order to an existing installation, and the jobs listed in the JOBINDEX member were named MAINT01 through MAINTnn and MANTHELP (update to the Help

system), then the SAS Deployment Wizard went into update mode and updated your installed SAS products to the most current level. **If your order contained new SAS products, you will need to invoke the SAS Deployment Wizard again** to install those products, following the same instructions above starting with Step 3 under “Installation Steps.”

Step 3. Validate Installation and Post-configuration

1. After all installation jobs have finished, submit the VALID job in the <HLQ>.INSTALL.CNTL data set and ensure that all steps complete with a return code of 0.
2. Consult the configuration instructions available for your operating system for product-specific post-installation steps. The configuration instructions are available from Install Center.

Notes:

- **Starting with** Rev. 940_13w36, the PROMOTE job will be represented as PROMOTn. If you performed an Action C, use the CLISTs, REXX EXECs, and JCL procedures in the <HLQ>.SL. data sets to test the additional products. When your testing is complete, submit the PROMOT1 job to copy the updates to your production libraries. PROMOT1 will launch the rest of the PROMOTn jobs. You **must** exit the <HLQ>.INSTALL.CNTL dataset after submitting the PROMOTn job suite.
- Before copying an installation to another system, please contact SAS Technical Support.

Step 4. Archiving Your SAS Software Depot

For future maintenance or installation of additional SAS software products, you will need your SAS Software Depot. It can be recreated, but you may find it easier to keep a backup of your SAS Software Depot so that only updates must be downloaded in the future. SAS Note 37119 (available at <http://support.sas.com/kb/37/119.html>) contains sample jobs to back up and restore your SAS Software Depot.

Tips and Additional Information

For the latest installation news, please visit these sites for tips and additional information that may not be in your documentation:

General support for SAS issues (including a link to Tech Support)

<http://support.sas.com>

Technical Support SAS 9.4 Hot Fix downloads

<http://ftp.sas.com/techsup/download/hotfix/hotfix.html>

General Information and Troubleshooting for Electronic Software Delivery

<http://support.sas.com/kb/30/950.html>

Locating the log files for SAS 9.4 installations

<http://support.sas.com/kb/49/756.html>

Documentation for a SAS 9.4 installation on z/OS

<http://support.sas.com/documentation/installcenter/94/mvs/index.html>

Technical Support

If you need assistance with the software, we ask that only the SAS Installation Representative or the SAS Support Consultant call our Technical Support Division.

For U.S. and Canadian customers, support is provided from our corporate headquarters in Cary, North Carolina. You may call (919) 677-8008, Monday through Friday.

Customers outside of the U.S. can obtain local-language technical support through the local office in their countries. Customers in these locations should contact their local office for specific support hours. See <http://support.sas.com/techsup/contact/index.html> for contact information for local offices.

Before calling, you may want to explore the SAS Institute Technical Support web site at <http://support.sas.com/techsup/>. The Technical Support web site offers a Knowledge Base, FAQs, Technical Support Documents and more that may answer your questions. This web site also provides a mechanism for reporting problems.



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