

Installation Instructions for SAS® 9.3 Electronic Software Delivery for Planning Installations on z/OS®



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Before You Begin

This document provides all of the information related to downloading and installing a SAS 9.3 Electronic Software **planning** order on z/OS systems for which you have purchased licenses. Please review this document before you begin your installation.

Because the SAS 9.3 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.

Be sure to review each of the topics in the “Prerequisites” and “Overview” sections before beginning your installation.

Prerequisites

System Requirements

Confirm that your system meets the minimum requirements by referring to the system requirements from the SAS 9.3 Install Center Documentation Web site (<http://support.sas.com/documentation/installcenter/93/index.html>) and selecting **Documentation for SAS 9.3 Installation on z/OS**.

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.

Software Order E-mail (SOE)

To install SAS 9.3 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 **planning** order.

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 `sas93_#####_yyyyyyyyy_zzz.txt` would mean ##### is your order number, yyyyyyyyyy is your setnumid (a unique identifier used by SAS Technical Support), and zzz is the operating system for which the order is licensed.

If you are going to run your metadata server on z/OS, you will be installing a set of 64-bit libraries in addition to the standard 31-bit libraries, which will have a separate SAS site number and a separate SID file. The SID file for the 64-bit metadata installation will show “SAS Metadata Server” in the SID file itself.

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

Disk 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 available at <http://support.sas.com/kb/37/119.html>.
- **SAS home directory**
The SAS home directory is an integral part of the SAS 9.3 installation. You may want to have your SAS Software Depot and SAS home 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.
- **SAS configuration directory**
This directory is where your SAS server scripts, configuration files, and metadata server repositories will reside. The amount of space required varies widely depending on your usage, but you should have at least 2 GB of space for this directory, 3 GB if you are migrating metadata from an earlier SAS release. We recommend that the configuration directory **not** be a subdirectory under the SAS home directory.

User ID Requirements

The user ID used for downloading your software or for installing SAS 9.3 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 9.3 Foundation for z/OS require a larger region setting:

- If running under OMVS, a TSO region size and ASSIZEMAX setting of at least 800 MB.
- If running UNIX-style commands using rlogin, putty, or telnet, an ASSIZEMAX setting of at least 800 MB.

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 1500. 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.

Updating the Logon Password

Before applying any maintenance or hot fixes, if the administrator of your system has changed their logon password, you must update the logon password. See “Updating the Logon Password” on page 21 for more information.

Deployment Plan

To install and configure SAS servers that are part of a planning order, you must have a deployment plan. The deployment plan is an XML-based description of the topology for your SAS system. The plan file is used in the SAS software deployment process to "instruct" the SAS Deployment Wizard which software components to install and configure on each machine.

The SAS Deployment Wizard contains a set of standard deployment plans that may be used by many sites with no customization. These are documented at

http://support.sas.com/demosdownloads/sysdep_t6.jsp?packageID=000803&searchvar=all.

If you are working with a SAS consultant in the deployment of your software, that consultant may create a customized deployment plan for your installation.

Pre-installation Checklists

You will need to perform some pre-installation tasks such as creating server user IDs, reserving ports, etc., before installing a planning order. For example, you can record information such as the user IDs for special SAS users, port numbers, and the installation locations of third-party products used for this installation. A generic pre-install checklist is available at

<http://support.sas.com/documentation/cdl/en/biig/62611/PDF/default/biig.pdf>. If

you are using one of the standard deployment plans, you can download the plan with a customized checklist for that plan by browsing through our library of standard deployment plans available at

http://support.sas.com/demosdownloads/sysdep_t6.jsp?packageID=000803&searchvar=all

and selecting the standard plan you will use for your installation. If you received a customized plan, that plan will include a customized pre-installation checklist.

Installing Required Third-Party Software

The checklist indicates any third-party software that must be installed before you install your SAS software, as well as which third-party software must be obtained from its vendor. An example is the X11 Server, described in the next section. Obtain that software and install it according to the vendor's instructions.

Some of your third-party software may be provided in your software order. That software is listed in your `ordersummary.html` which is available in your SAS Software Depot. Follow the path for each third-party product listed in the Third Party section of the `ordersummary.html` to locate the documentation for its installation.

You must have a supported level of Java installed for a planning installation with SAS 9.3. 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/>.

X11 Server Availability

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 is available in orders with a version number of Rev. 930_12w nn , where nn is 10 or higher. Refer to your Software Order E-mail to determine your version number. Console mode cannot be used on your middle tier.

Note: If you are configuring SAS Data Integration Studio and intend to use console mode, you must have a virtual framebuffer such as *Xvfb*.

For more information about X11 server minimum version requirements, see the Web page entitled "SAS 9.3 Support for Additional Software Products" at http://support.sas.com/resources/thirdpartysupport/v93/othersw.html#tab_x11.

Terminology

SAS Deployment Wizard

The SAS Deployment Wizard is the common interface used to install and deploy all SAS 9.3 software. Using the SAS Deployment Wizard, you interact with the SAS Software Depot, the repository of files and data necessary to install your SAS 9.3 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.*

Location of 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.

SAS Home 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 SAS Home directory.

Many sites prefer to have SAS Home 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 SAS Home location cannot be a directory within your SAS software depot.

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

Note: *The SAS Home directory is an integral part of the SAS 9.3 installation and **MUST** exist for you to apply maintenance or hotfixes to your SAS 9.3 software.*

SAS Configuration Directory

The SAS Deployment Wizard will prompt you for a configuration directory. The SAS configuration directory is the UNIX directory location where your SAS metadata and server configuration files and scripts will be created. You should have a minimum of 2 GB of space for this data, although total space requirements will depend on your usage of the metadata server.

Update Mode

If you are adding maintenance or new products to an existing installation, the first invocation of the SAS Deployment Wizard will compare your installed products to the versions in the SAS Software Depot. If the SAS Software Depot contains new versions or maintenance to any installed products, the SAS Deployment Wizard switches to “update mode” and brings those products up to the current level. If you wanted to add new products to your existing installation, you will need to invoke the SAS Deployment Wizard a second time.

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 9.3 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 9.3: User's Guide* at <http://support.sas.com/documentation/installcenter/93/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.

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.

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 along with the pre-installation steps in the SAS 9.3 *Intelligence Platform: Installation and Configuration Guide*.

The SAS 9.3 *Intelligence Platform: Installation and Configuration Guide* is available at

<http://support.sas.com/documentation/cdl/en/biig/62611/HTML/default/viewer.htm#titlepage.htm>.

You **must** have an X11 server available on a Windows PC or UNIX machine at your site, and you **must** use the SAS Deployment Wizard to install your software.

Installation Action—Action A or Action B

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 9.3 installed on your system at all or you want to create a new SAS 9.3 installation.
- **Action B** installs maintenance and/or new products directly into your existing production SAS 9.3 libraries and directories.

The **–nojobsubmit** command line option

Several batch jobs will be used to complete part of the deployment. By default, the SAS Deployment Wizard submits these jobs and:

- Assigns the same job name **xxxxxxA** to each job it automatically submits, where:
xxxxxxx – is assigned the installer user ID
“A” – suffix assigned to the installer user
- Uses the FTP JES interface to track the progress of each job, and in particular determine when they have completed.

There are several reasons why the use of the FTP JES interface might not be possible or successful at your site. If you specify the **–nojobsubmit** command line option when you invoke the SAS Deployment Wizard, you will submit the batch jobs manually after the SAS Deployment Wizard completes. Below are some of the reasons for using the **–nojobsubmit** command line option which will allow you to edit and submit the batch jobs yourself:

- 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 jobname be the user ID performing the install suffixed with a single letter or digit is incompatible with your site’s jobname requirements

If any of these conditions apply at your site, you must use the **–nojobsubmit** command line option when you run the `setup.rexx` exec, discussed later in this document.

Planning Metadata Migration from SAS 9.1.3 or SAS 9.2

If you are migrating metadata from SAS 9.1.3 or SAS 9.2, you must prepare your software for migration. To prepare your SAS 9.1.3 or SAS 9.2 deployment for migration to SAS 9.3, follow the instructions in the *SAS 9.3 Intelligence Platform: Migration Guide* at <http://support.sas.com/documentation/cdl/en/bimig/62613/HTML/default/titlepage.htm>.

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 9.3 Foundation for z/OS must have the same requirements as noted in “User ID 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.

Installation Steps

1. In order to use the SAS Deployment Wizard interactively, you will need to have access to a desktop computer with an X11 server installed and active. You need to determine whether you have an X11 server.

- a. 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
```

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. If you don't have an X11 server, you can use the `-console` option, and you do not have to issue the `export display` command. For example:

```
./setup.rexx -nojobsubmit -console
```

Note: `-nojobsubmit` and `-console` are optional.

If you intend to run the SAS Deployment Wizard in 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=).

The `-console` line command option also supports two options to specify the size of the output of the SAS Deployment Manager. Use `-pagesize #` to specify the number of lines to display before pausing the output and `-pagewidth #` to specify the number of characters to display on a line before wrapping to another line. Note that `-pagesize` and `-pagewidth` will not work with any other command line option.

Usage

```
-console [-pagesize #] [-pagewidth #]
```

Example

```
setup.rexx -console -pagesize 20 -pagewidth 50
```

The `-console` line command option can be used with other options at the same time, such as recording or playing back a response file.

Note: If you are instructed to enter a sequence that includes angle brackets, such as "Enter <q> to quit", you must include those symbols.

Note: If you intend to run the SAS Deployment Wizard in 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=).

2. In SAS 9.3, the metadata server runs only in 64-bit mode and requires a separate installation. **If you plan to run your metadata server on z/OS, you must invoke the SAS Deployment Wizard multiple times, and this should be your first invocation of the SAS Deployment Wizard.**

Important: *If your metadata server will reside on another machine, the metadata server must be installed, configured, and already running on that other host. Skip to Step 3 to invoke the SAS Deployment Wizard for the 31-bit install.*

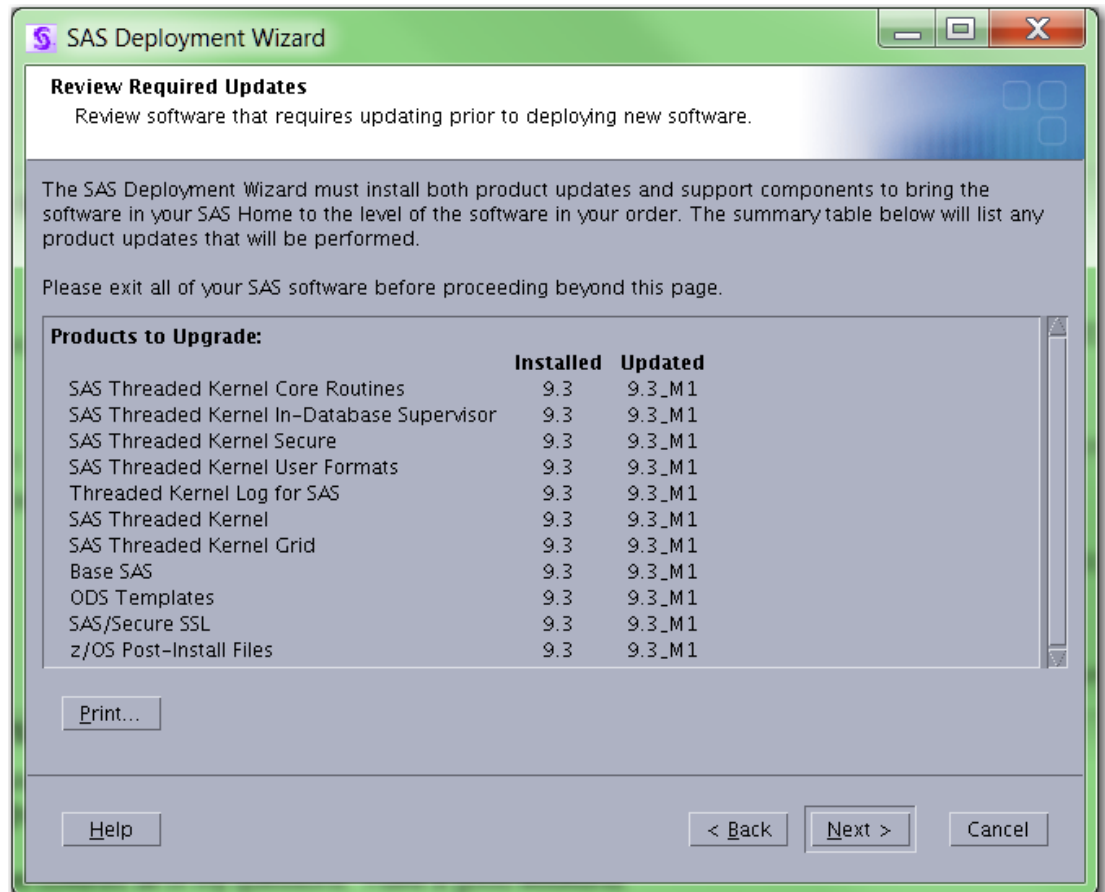
- a. Invoke the SAS Deployment Wizard with the required option `-z64` and optionally the `-nojjobsubmit` and/or `-console` related options:

`./setup.rexx -z64 -nojjobsubmit -console`

Note: *-nojjobsubmit and -console are optional.*

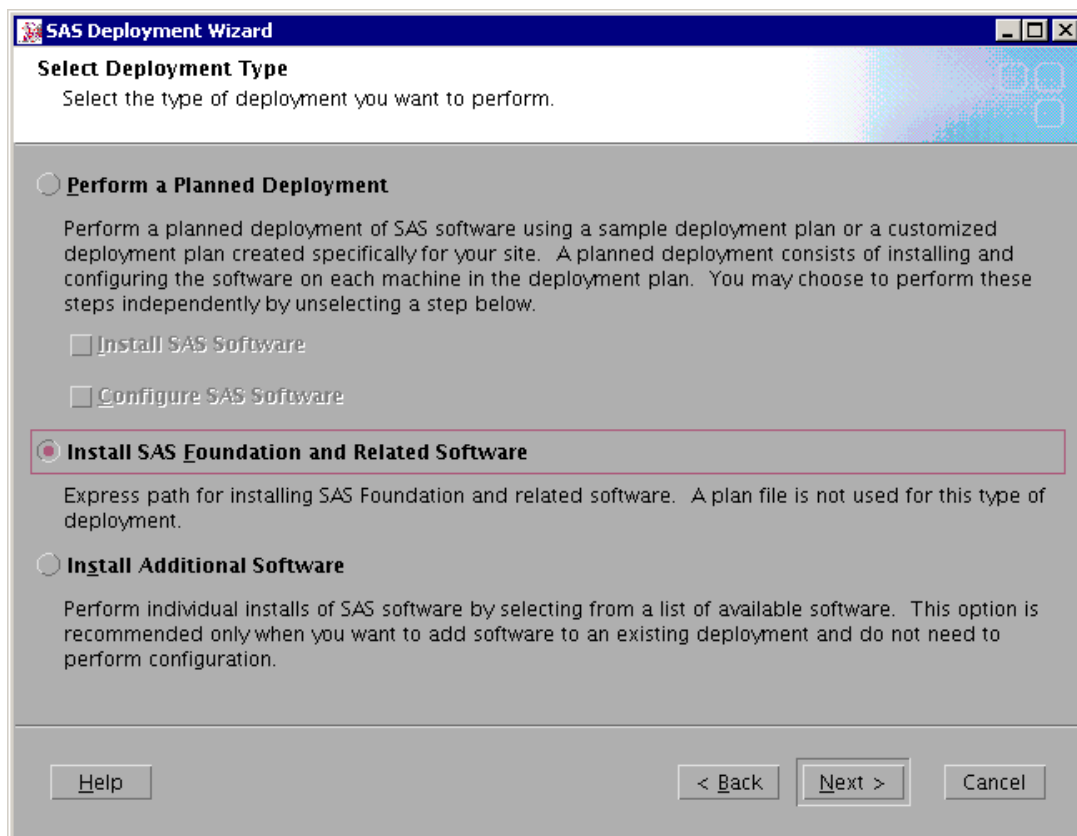
- b. Select “Install SAS Software” on the first screen.

If you are applying maintenance to an existing installation, you will go into update mode and be prompted to Review Required Updates as shown on the following screen.



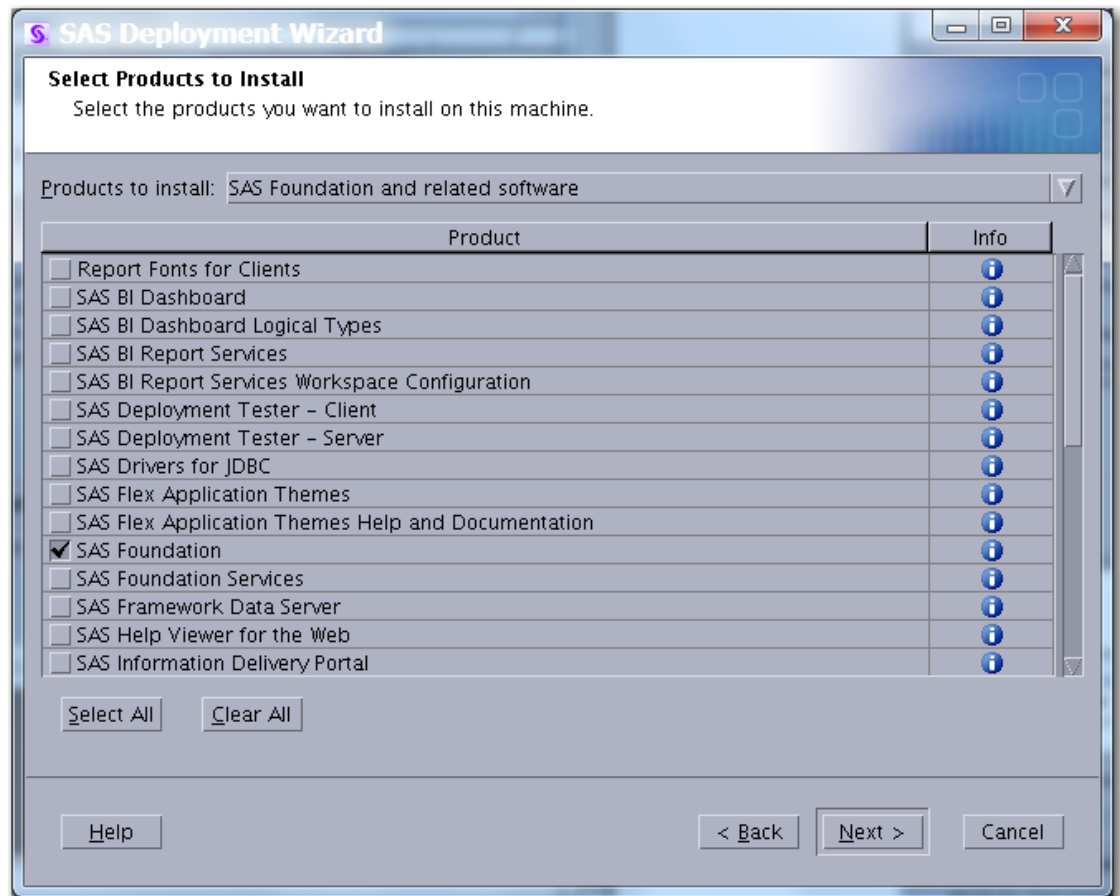
Continue through the remaining dialogs to apply maintenance. Then proceed to Step 2f on page 12.

For a new installation, the next 4 steps show some key screens and values. You will be prompted for the deployment type on the second screen. Select “Install SAS Foundation and Related Software” as shown below.

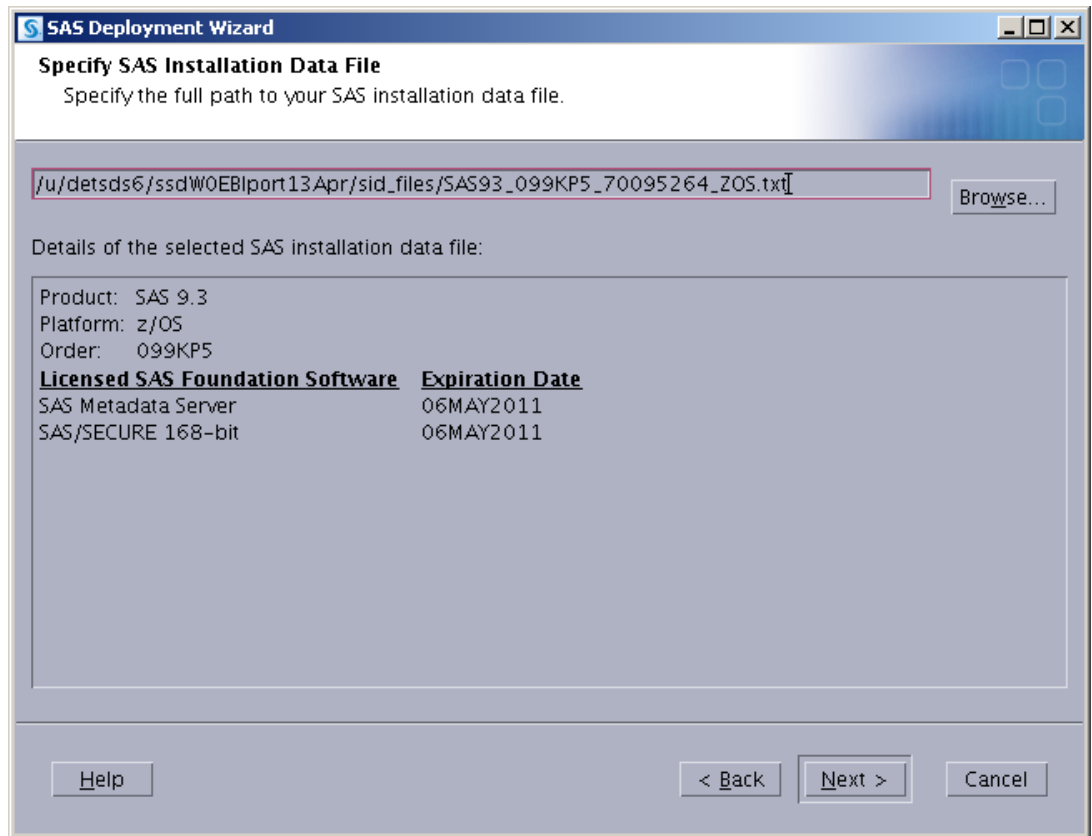


- c. When prompted for your SAS Home directory, note that you will use the same directory for both the 64-bit and 31-bit installations.

- d. Only select “SAS Foundation” in the “Select Products to Install” screen.



To ensure you are using the correct SID file for the z64 install, the only products that should appear are the SAS Metadata Server and, if it is contained in your order, SAS/Secure.



- e. **Use a separate high-level qualifier for this installation** than you will for your main SAS installation (it could be the main SAS high-level qualifier with an additional level, for example SAS.SAS93.Z64). Note that the load module libraries created for the 64-bit installation do NOT need to be program-controlled as the libraries for the 31-bit installation do.
- f. If you specified `-nojbsubmit`, after the SAS Deployment Wizard has completed with all green check marks, run the series of jobs indicated in the JOBINDEX member of the `<HLQz64>.INSTALL.CNTL` data set. After you submit the first job, each job will submit the subsequent job as its last step.

3. Invoke the SAS Deployment Wizard for the 31-bit install. Note that this will be the second invocation if you installed your metadata server on z/OS following the instructions in Step 2. On your z/OS system, from OMVS (**not** ISHELL), rlogin, or putty, enter the z/OS UNIX shell command `./setup.rexx` at the root of your SAS Software Depot to start the SAS Deployment Wizard.

The most commonly used options are:

-nojobsubmit	as discussed earlier in this document, using this option means that the SAS Deployment Wizard will not submit the jobs automatically so that you can inspect and/or modify the JCL before execution. You will follow the manual steps in the section “After Running setup.rexx with the -nojobsubmit Command-line Option” on page 18.
-record	records the values that you enter for the SAS Deployment Wizard prompts in the file specified by the <code>-responsefile</code> option. This is convenient when you have to enter many options such as port numbers and you may have to rerun the configuration later. Note that once you have saved a response file, you can use it in a subsequent invocation of the SAS Deployment Wizard by specifying <code>-responsefile</code> without the <code>-record</code> option.
-responsefile	if <code>-record</code> is also specified, a new file is created with the responses entered in that invocation of the SAS Deployment Wizard. If <code>-record</code> is not specified, an existing response file from a previous run will be used to fill in the responses from that previous run. Your installation user ID must have write access to the specified file.
-deploy	if you specify <code>-record</code> you must also specify <code>-deploy</code> to actually deploy the software.
-console	if you do not have access to an X11 server. Any content that would have appeared in screens like the screen captures shown in this document will instead be printed to your command window.

Example

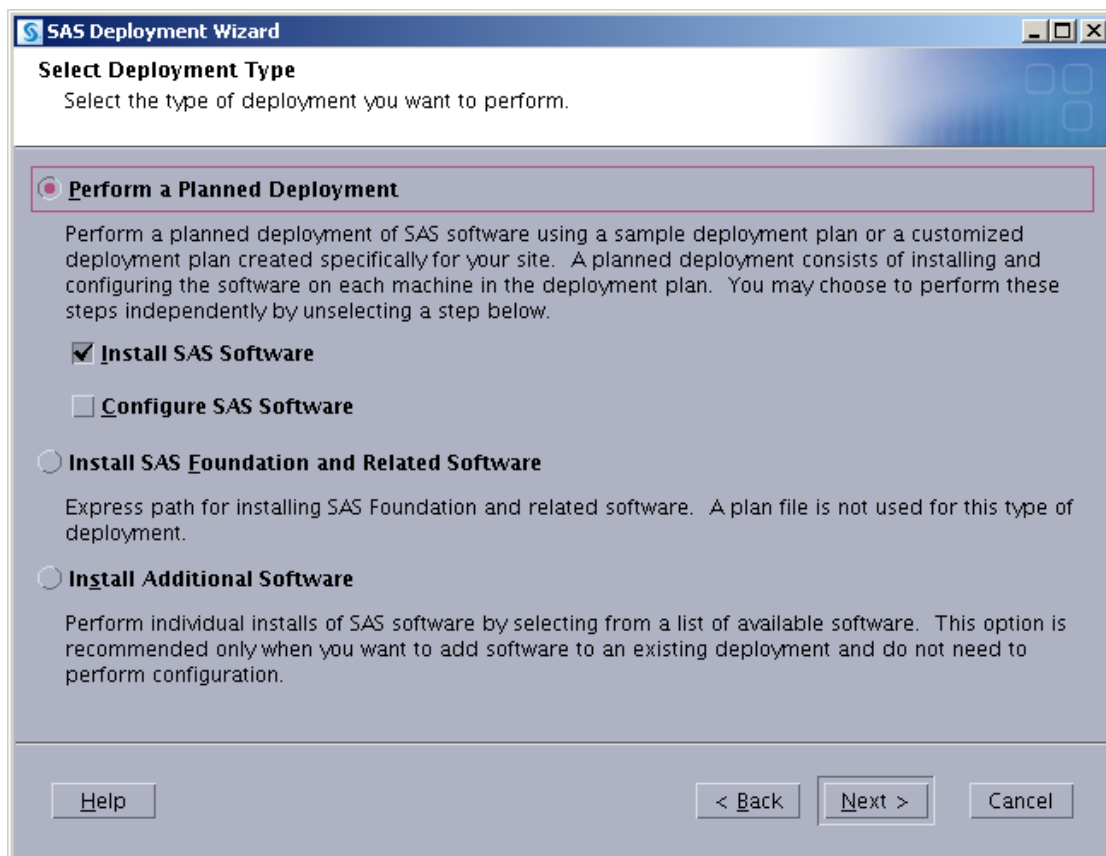
```
setup.rexx -record -responsefile /u/userid/sdwresponse.properties
```

Notes:

- By default, no deployment occurs when running in a record mode. In order to force a deployment while recording, use `-deploy`. For example:

```
setup.rexx -record -responsefile  
/u/userid/sdwresponse.properties -deploy
```
- If you specify a file location where a file already exists, the pre-existing file will be overwritten by the SAS Deployment Wizard.
- A full listing and description of these command-line options for setup.rexx may be found in the *SAS Deployment Wizard User's Guide*, available from the Install Center at <http://support.sas.com/installcenter>.

4. Before you configure your servers, you must have the SASCP64 module installed where it can be accessed as a TSO or UNIX command. For TSO, the SASCP64 module must be in a TSO command library or in STEPLIB. If you use rlogin to access your z/OS system, the SASCP64 module must be in link list.
If you do not have the SAS SVC installed from a previous SAS 9 release, you must also install that into your system before running the configuration. You can do this by installing (but not configuring) 31-bit SAS and then obtain the SVC module from the load library, or you can download it from SAS Note SN 43697 available at <http://support.sas.com/kb/43/697.html>.
5. **Complete this step only if you are performing a new installation.** If you are applying maintenance, proceed to Step 6. Use the SAS Deployment Wizard dialogs to install the 31-bit software. If you are using the `-nojbsubmit` option, you should check only “Install SAS Software” as shown below. If you are not using the `-nojbsubmit` option, you can configure your servers in the same invocation of the SAS Deployment Wizard.



- Use the **Help** button for more information about the choices available in each page.

- Be sure to use the same JRE as you are using to run the SAS Deployment Wizard for the “Select Java Runtime Environment prompt” (see the screen image which follows). If you are unsure of which JRE you are using, see the messages displayed when the SAS Deployment Wizard starts up which indicate the JRE being used. Alternatively, you may call SAS Technical Support for assistance. This is an example of the messages displayed by the SAS Deployment Wizard (the highlighted text is what you would have put in the prompt in the SAS Deployment Wizard):

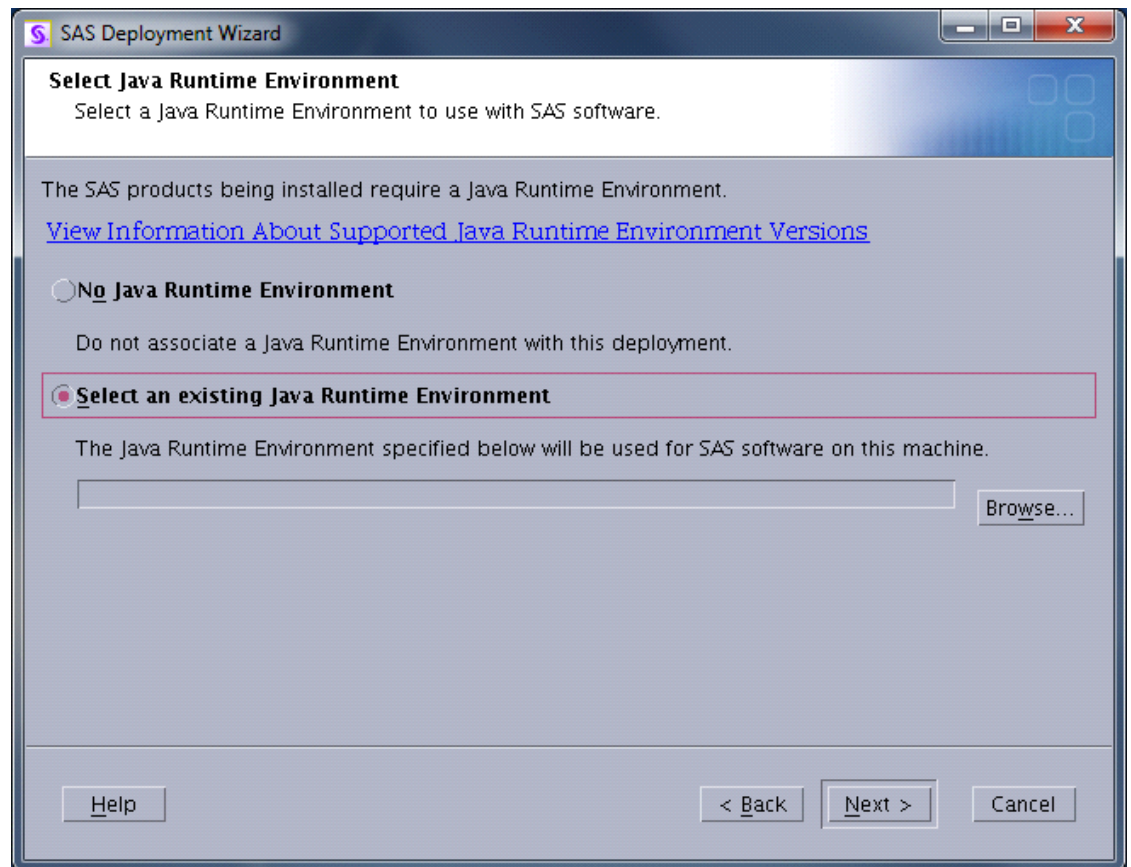
java runs from /usr/lpp/java/J6.0/bin/java by default.

The java version found is:

java version "1.6.0"

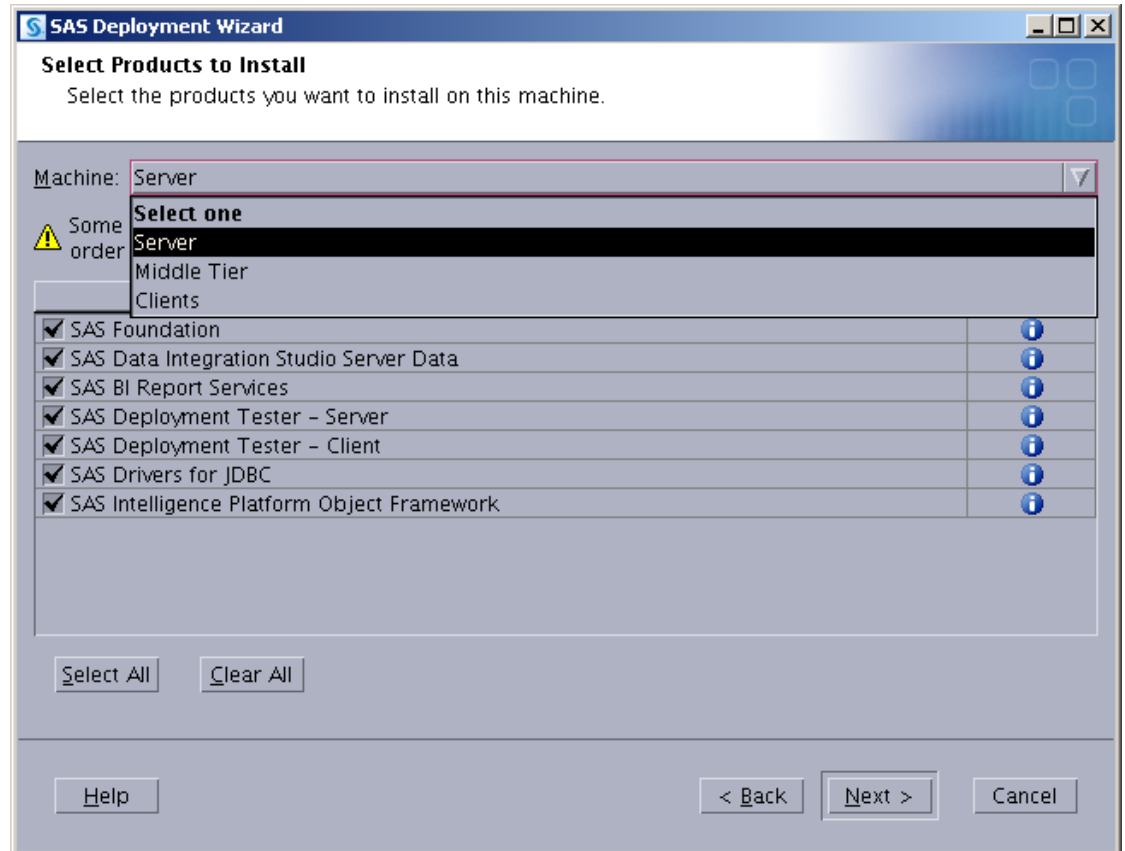
Java(TM) SE Runtime Environment (build pmz3160sr8fp1-20100624_01(SR8 FP1))

IBM J9 VM (build 2.4, JRE 1.6.0 IBM J9 2.4 z/OS s390-31 jvmmz3160sr8ifx-20100609_59383 (JIT enabled, AOT enabled))



- For more detailed information, please see the *SAS Deployment Wizard and SAS Deployment Manager 9.3: User's Guide* at <http://support.sas.com/documentation/installcenter/93/mvs/index.html>.

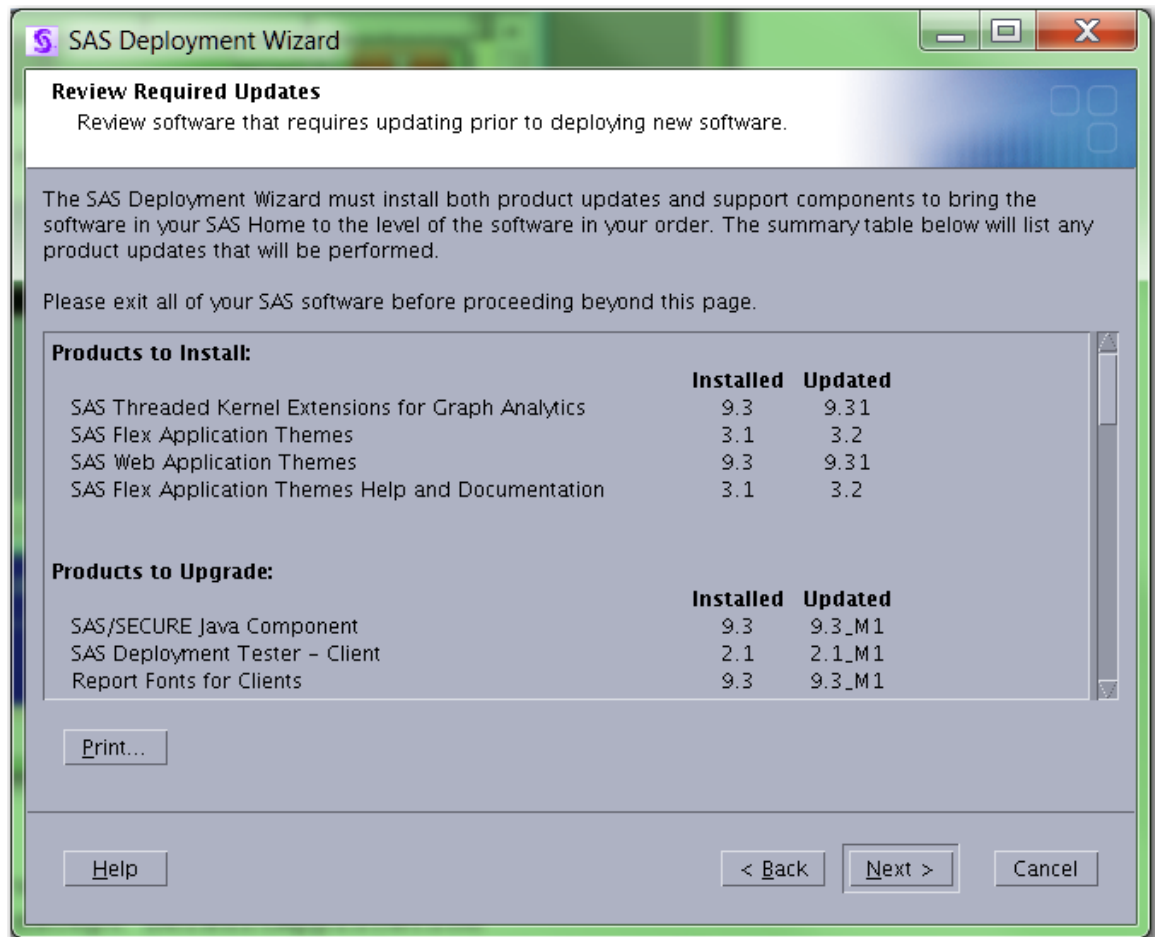
- One common point of confusion in the SAS Deployment Wizard is selecting which machine in a multi-machine plan you are working with. For z/OS, you will usually be choosing “Server,” “SAS Application Server,” or “SAS Metadata Server,” depending on which plan you are using and what you wish to install on this machine.



Continue through the dialogs or prompts until the SAS Deployment Wizard completes.

Note: If you did NOT run with the `-nojbsubmit` option, please verify that all batch jobs submitted by the SAS Deployment Wizard ran successfully. The `JOBINDEX` member of `<HLQ>.INSTALL.CNTL` shows which jobs should have executed.

6. **Complete this step only if you are applying maintenance.** If you are applying maintenance to an existing configuration, make sure that all servers are stopped except the metadata server. All Web applications and server should be stopped. When you invoke the SAS Deployment Wizard, you will see the Review Required Updates screen as shown below.



Continue through the remaining dialogs to apply maintenance.

After Running setup.rexx with the `-nojobsubmit` Command-line Option

Follow these steps to complete an installation that used the `-nojobsubmit` option.

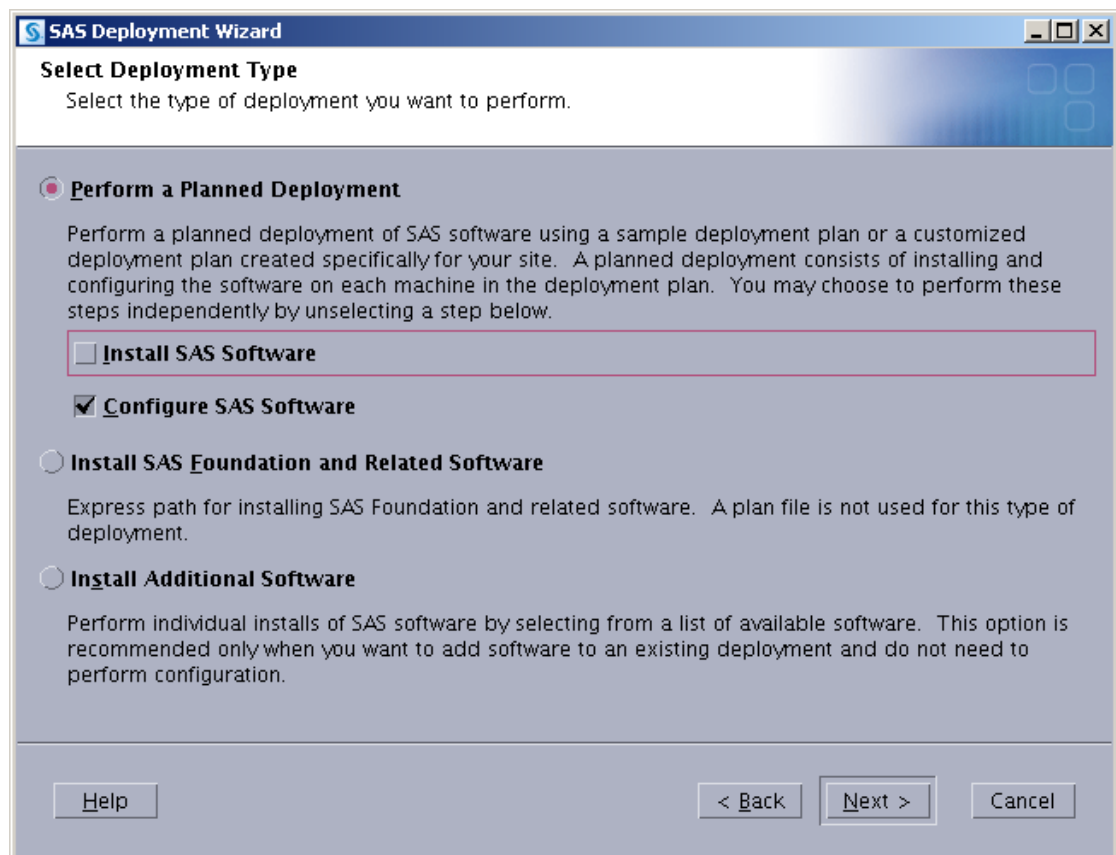
1. Once the SAS Deployment Wizard shows that the installations have completed (all green checkmarks), batch jobs for the foundation installation have been created in the `<HLQ>.INSTALL.CNTL` partitioned data set. The number of batch jobs will vary based on the content of your order. The member `JOBINDEX` in the `<HLQ>.INSTALL.CNTL` data set will contain the list of jobs that must be executed.
2. You may want to edit each of the JOBCARDS in the jobs listed in the `JOBINDEX` member of the `INSTALL.CNTL` data set to provide any required site-specific accounting information, etc., if you want to do so. 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.

3. 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. Otherwise; submit *only* the first job.

Note: After submitting an install job, the <HLQ>.INSTALL.CNTL library cannot be open in edit mode. This may cause some of the install jobs to fail when trying to open the CNTL library for update.

4. **Complete this step only if you are performing a new installation.** If you are applying maintenance, proceed to Step 5.

For a new installation, invoke the SAS Deployment Wizard again and check Configure SAS Software as follows:



Proceed through the remainder of the configuration. **Do not complete Step 5.**

Note: You should have defined ports, user IDs, servers, etc., in your pre-installation checklist that will provide the information needed for the configuration dialogs.

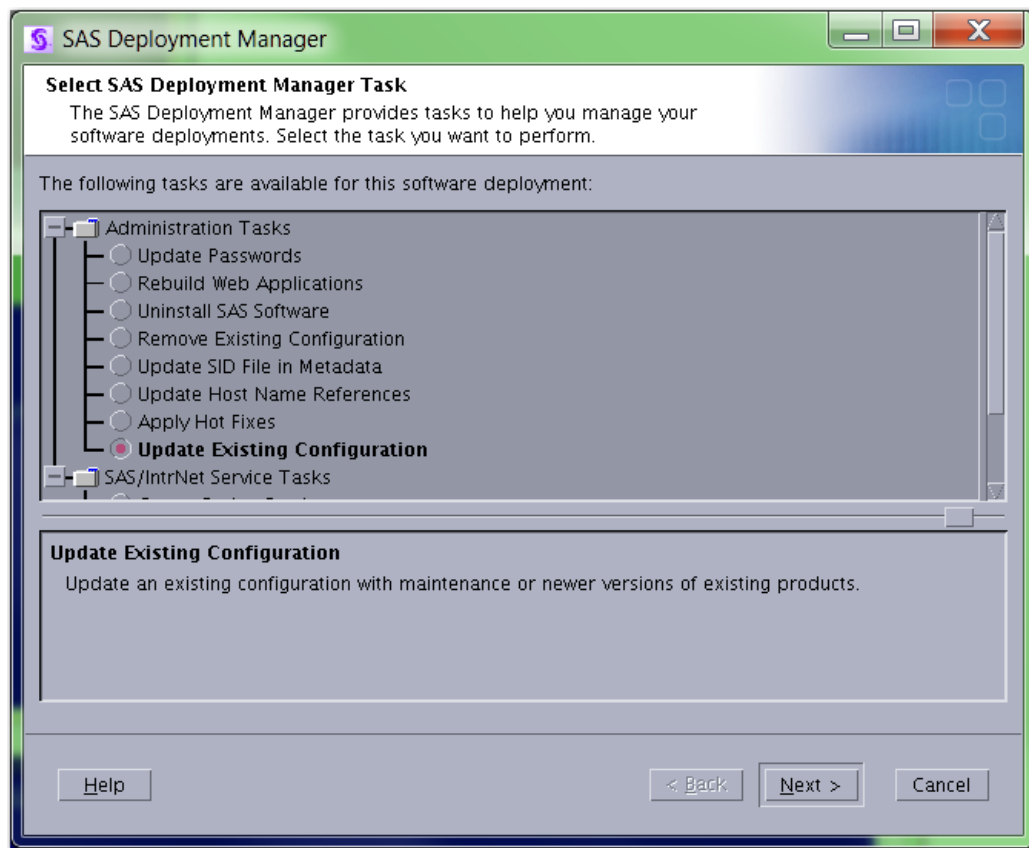
5. **Complete this step only if you are applying maintenance.** If you applied maintenance to an existing installation, you must invoke the SAS Deployment Manager to complete the update of your configuration. Make sure that all servers are stopped except the metadata server, including the Web applications.

In OMVS, navigate using the “cd” command to

<SASHOME>/SASDeploymentManager/9.3 and invoke the following command:

./sasdm.rexx

Then, select “Update Existing Configuration” as shown below.



Proceed through the remaining dialogs to complete your configuration.

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 MAINT1 through MAINTn, 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.”

Updating the Logon Password

When the administrator of your system changes their logon password, you must run a rexx program to update the password that the previous SAS installation process stored. The user ID and password of the person who initially installed the system is located in the `install.properties` file. The password is encrypted and you will not be able to view it if you open the file. Do not attempt to edit this file on your own.

The CHGPW.REXX program is used to change the password. It can be found in USS under `[SASHOME]/SASDeploymentManager/9.3`.

To run this program in USS space, type **chgpw.rexx** and follow the prompts. Upon invoking the program, you will see the java version found in the system displayed on the screen along with the following:

```
Enter password for YOURID:  <enter the current password for your user ID>
```

The following prompt will appear:

```
Enter password again:      <enter the same password that you provided for the previous prompt>
```

If the passwords to the prompts are not the same, the following text will be displayed:

```
Passwords don't match. Try again.
```

If the passwords match, the following prompt will appear:

```
Password successfully updated.
```

Additional Configuration Steps

After all installation jobs have finished, submit the VALID job in the CNTL data set from the 31-bit installation and ensure that all steps complete with a return code of 0.

Consult the configuration instructions available for your operating system for product-specific post-installation steps. The configuration instructions are available from Install Center.

Managing Server Sessions

After the SAS Deployment Wizard has finished configuration of your software, any servers you have configured (metadata server, object spawner, OLAP server, etc.) will be running as UNIX processes. To stop these processes cleanly, in OMVS navigate to your configuration directory, then the Lev1 directory below that, and execute the following command:

```
./sas.servers stop
```

You can also issue this command

```
./sas.servers status
```

to see the status of all servers (and which ones are running)

or

```
./sas.servers start
```

to start all servers in the correct order. If you want to run your servers as started tasks, for example, you would stop all the UNIX processes, and then use the JCL created for the started tasks in the data set `<high-level-qualifier>.Wn.SRVPROC`.

Installing SAS 9.3 Mid-tier and Client Software from the SAS Software Depot

Creating the SAS Software Depot for Your Mid-tier and Client Machines

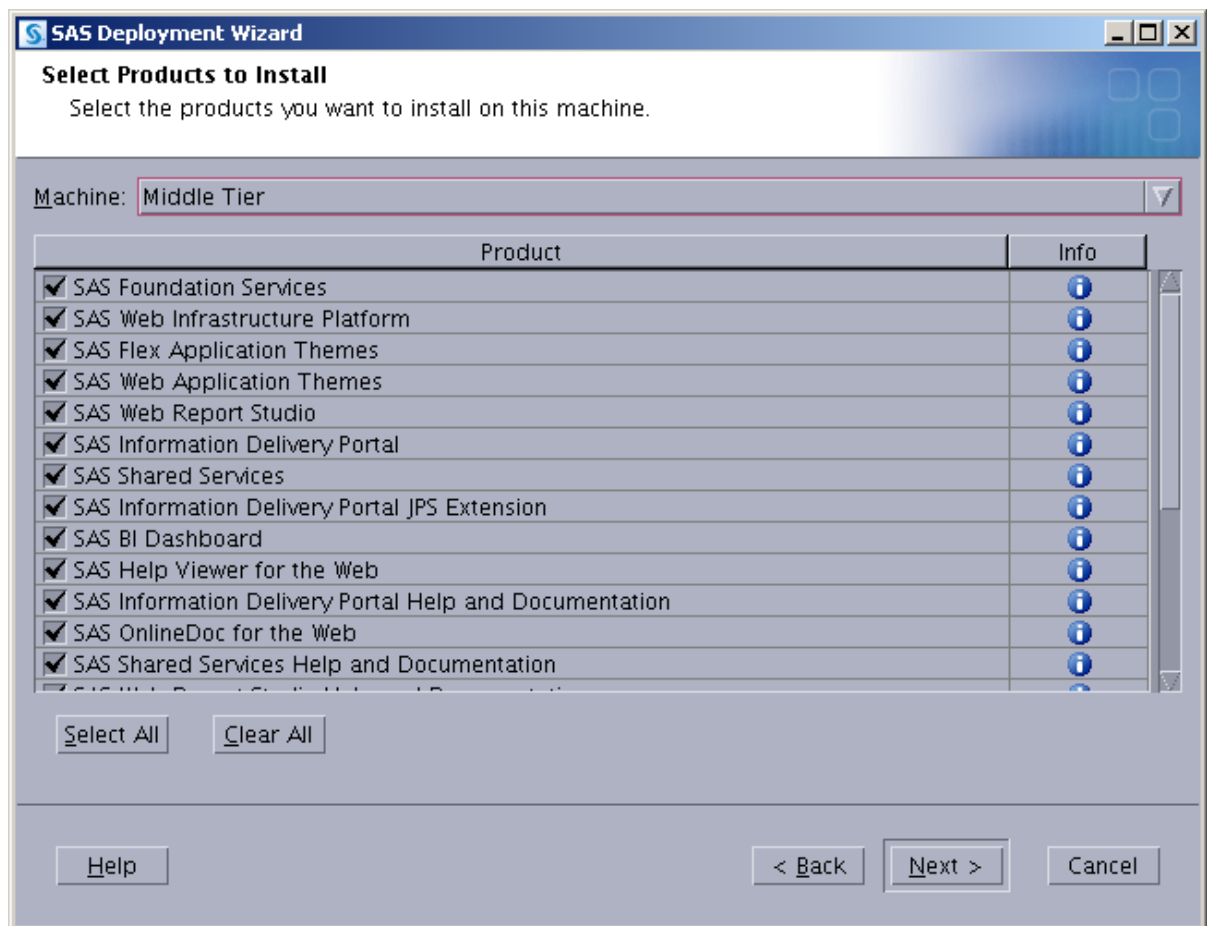
To install software on your mid-tier and client machines, the SAS Software Depot must be accessible to those machines. If your machines can share directories, a single copy of the SAS Software Depot can be shared between machines, even on machines with different operating systems. You can use either of the following methods to create the depot:

- Download the SAS Download Manager for either UNIX or Windows and follow the instructions to create the SAS Software Depot for each of your mid-tier and client machines. From the following link, identify the appropriate operating system where you will be downloading your SAS software and click **Request Download**.
<http://www.sas.com/downloadmgr>
- Copy your SAS Software Depot from z/OS to the other machines using a third-party FTP utility that can transfer entire directory trees in binary mode and preserve the case of all file names.

Installing Required Third-Party Software

- Your checklist names any third-party software that must be installed before you install your SAS software. If you have no third-party software listed in the checklist or the `ordersummary.html`, skip to “Installing SAS Software from the SAS Software Depot” on page 24.
- The checklist indicates which third-party software must be obtained from its vendor. Obtain that software and install it according to the vendor’s instructions.
- Some of your third-party software may be provided in your software order. That software is listed in your `ordersummary.html` which is available in your SAS Software Depot. Follow the path for each third-party product listed in the Third Party section of the `ordersummary.html` to locate the documentation for its installation.

Note: You should use the same plan as you used for the z/OS Server tier. Select **Middle Tier** or **Clients** as appropriate.



Installing SAS Software from the SAS Software Depot

Windows users should double-click the setup.exe file at the top level of your SAS Software Depot.

The most commonly used options are:

- record** records the values that you enter for the SAS Deployment Wizard prompts in the file specified by the **-responsefile** option. This is convenient when you have to enter many options such as port numbers and you may have to rerun the configuration later. Note that once you have saved a response file, you can use it in a subsequent invocation of the SAS Deployment Wizard by specifying **-responsefile** without the **-record** option.
- responsefile** if **-record** is also specified, a new file is created with the responses entered in that invocation of the SAS Deployment Wizard. If **-record** is not specified, an existing response file from a previous run will be used to fill in the responses from that previous run.
- deploy** if you specify **-record** you must also specify **-deploy** to actually deploy the software.
- console** only used for UNIX hosts, not needed on Windows.

Example

```
setup.exe -record -responsefile "C:\Program Files\SAS\sdwresponse.properties"
```

Notes:

- By default, no deployment occurs when running in a record mode. In order to force a deployment while recording, use **-deploy**. For example (enter as one line):

```
setup.exe -record -responsefile "C:\Program Files\SAS\sdwresponse.properties" -deploy
```
- If you specify a file location where a file already exists, the pre-existing file will be overwritten by the SAS Deployment Wizard.
- For more information about the choices available in each dialog, click the Help button. A full listing and description of these command-line options for **setup.exe** may be found in the *SAS Deployment Wizard and SAS Deployment Manager 9.3: User's Guide* at <http://support.sas.com/documentation/installcenter/93/mvs/index.html>.
- UNIX users should execute **setup.sh** from the root of your SAS Software Depot.

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 9.3 Hot Fix downloads

http://ftp.sas.com/techsup/download/hotfix/HF2/93p2_home.html

General Information and Troubleshooting for Electronic Software Delivery

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

Locating the log files for SAS 9.3 installations

<http://support.sas.com/kb/43/606.html>

Documentation for a SAS 9.3 installation on z/OS

<http://support.sas.com/documentation/installcenter/93/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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