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SAS[®] Visual Analytics 7.2

Installation and Configuration Guide (Non-distributed SAS[®] LASR[™])

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SAS® Visual Analytics 7.2: Installation and Configuration Guide (Non-distributed SAS® LASR™)

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Using This Book

Audience

This book documents the installation and initial configuration of SAS Visual Analytics for a non-distributed SAS LASR Analytic Server for a traditional, on-premises deployment. This book does not include deploying any other SAS product beyond SAS Visual Analytics for a non-distributed SAS LASR Analytic Server. If you are upgrading, see the *SAS Guide to Software Updates*, available at <http://support.sas.com/documentation/cdl/en/whatsdiff/66129/PDF/default/whatsdiff.pdf>.

Although the majority of figures in this guide are from a Microsoft Windows deployment, the experience is, for the most part, identical on Linux. Differences in the deployment between operating systems are noted.

For documentation about deploying SAS Visual Analytics for a distributed SAS LASR Analytic Server on an analytics cluster or converting your SAS LASR Analytic Servers to run in distributed mode, see the *SAS Visual Analytics: Installation and Configuration Guide (Distributed SAS LASR)*, available at <http://support.sas.com/documentation/solutions/va/index.html>.

Documentation Conventions

SAS Installation Directory

The phrase *SAS installation directory* refers to a host path. (The SAS installation directory is sometimes referred to as SAS Home.) For example: `c:\Program Files\SASHome`.

SAS Configuration Directory

The phrase *SAS configuration directory* refers to a host path that includes a configuration name and level. For example: `c:\SAS\Config\Lev1`.

For more information, see the topic, “Overview of the Configuration Directory Structure,” in the *SAS Intelligence Platform: System Administration Guide*, available at <http://support.sas.com/documentation/cdl/en/bisag/67481/HTML/default/viewer.htm>.

1

Deploying SAS Visual Analytics (Non-distributed LASR)

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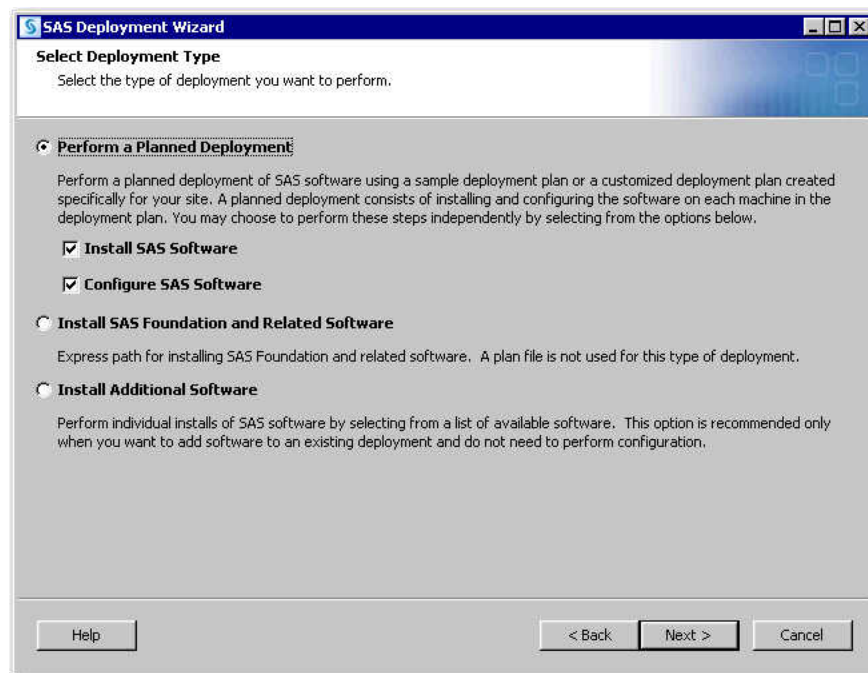
What Is Covered in This Document?

This document is designed to help you quickly and efficiently deploy SAS Visual Analytics with a non-distributed SAS LASR Analytic Server on a single machine.

You use a program provided by SAS called the *SAS Deployment Wizard* to perform the actual installation and initial configuration of SAS Visual Analytics. The deployment wizard is an easy-to-use program that prompts you for the necessary information to automatically install and configure SAS Visual Analytics.

The deployment wizard prompts you for information that might require input from your site's IT team. Some of the answers that you provide (such as user names and passwords) should be recorded because you (or someone at your site) will need this information later to use and administer SAS Visual Analytics.

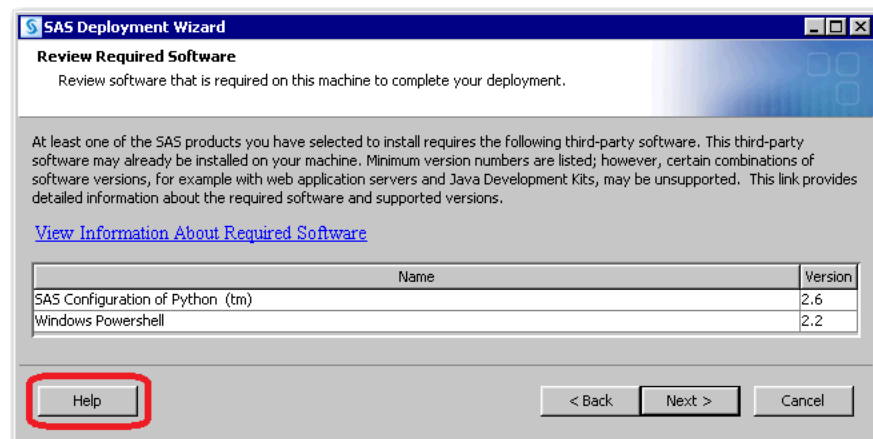
Figure 1.1 Example of a SAS Deployment Wizard Page



This document gives you step-by-step instructions to successfully deploy SAS Visual Analytics. If you find that you require more information about the deployment wizard configuration prompts, you can do the following:

- Click the **Help** button on the wizard page for the prompt in question.

Figure 1.2 Location of the Help Button on a SAS Deployment Wizard Page



- See the *SAS Visual Analytics: Installation and Configuration Guide (Distributed SAS LASR)*, available at <http://support.sas.com/documentation/solutions/va/index.html>.

If you find that you need more information about using the deployment wizard itself, see the *SAS Deployment Wizard and SAS Deployment Manager: User's Guide*, available at <http://support.sas.com/documentation/installcenter/en/ikdeploywizug/66034/PDF/default/user.pdf>.

SAS Visual Statistics Installation Instructions

If SAS Visual Statistics is part of your order, then when you perform the steps in this document for installing and configuring SAS Visual Analytics, you are also installing and configuring SAS Visual Statistics.

Migrating a Pre-Existing SAS Visual Analytics Deployment

If you already have a SAS Visual Analytics deployment and you want to upgrade it to a later version, see “Migrating SAS Visual Analytics,” in the <http://support.sas.com/documentation/solutions/va/72/en/vaicg.pdf>.

Deployment Process Overview

The following list summarizes the steps required to install and configure SAS Visual Analytics on a single machine:

- 1 [Create a SAS Software Depot.](#)
- 2 [Check for documentation updates.](#)
- 3 [Prepare your environment.](#)
- 4 [Install and configure SAS Visual Analytics.](#)
- 5 [Perform post-deployment steps.](#)
- 6 [Add SAS Visual Analytics users to the system.](#)
- 7 [Validate your SAS Visual Analytics deployment.](#)

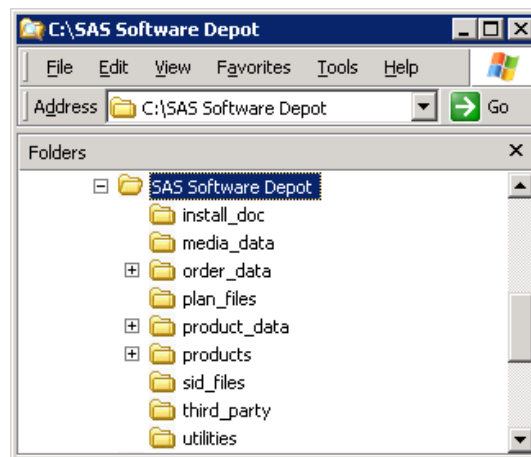
Subsequent sections in this guide provide the step-by-step instructions that you need to complete these tasks.

Although the majority of figures in this guide are from a Microsoft Windows deployment, the experience is, for the most part, identical on Linux. Differences in the deployment between operating systems are noted.

Step 1: Create a SAS Software Depot

SAS Visual Analytics must be installed from a SAS Software Depot, which is a repository for your SAS software media. If you already have a SAS Software Depot, skip to “[Step 3: Prepare Your Environment](#)” on page 8.

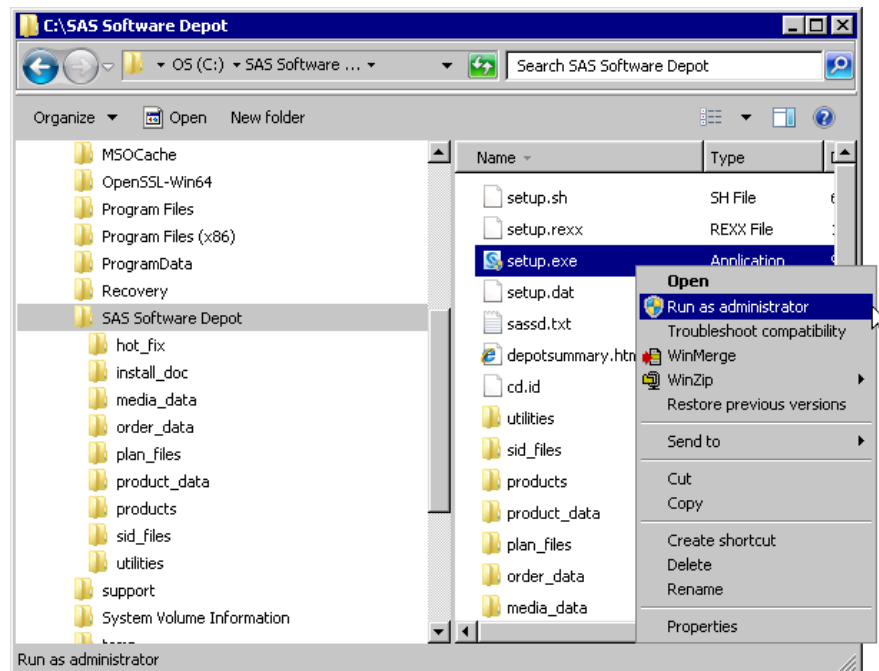
Figure 1.3 Windows Explorer Displaying a SAS Software Depot



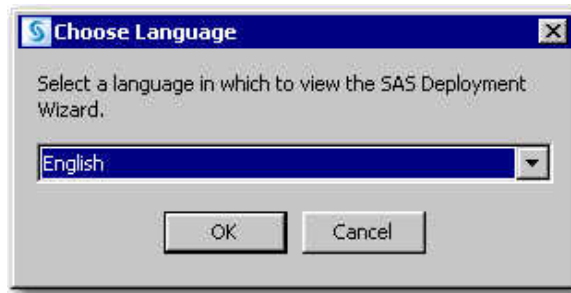
Note: If you receive your SAS Visual Analytics order by electronic software download (ESD), refer to your software order e-mail (SOE) for instructions on how to download your SAS order and create a SAS Software Depot. If you have already downloaded your SAS order, your SAS Software Depot is automatically created for you. Proceed to [“Step 2: Check for Documentation Updates”](#) on page 8.

If your installation media is in DVD format, create a SAS Software Depot by following these steps:

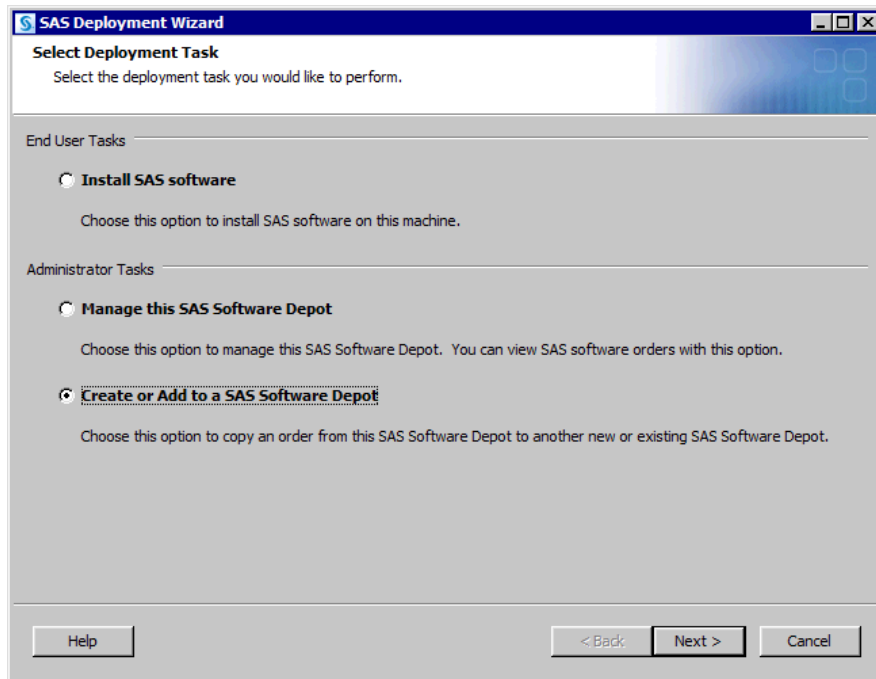
- 1 Insert Disk 1 into your DVD drive.
- 2 If the SAS Deployment Wizard does not automatically launch, open the DVD in Windows Explorer, right-click `setup.exe`, and select **Run as administrator**.



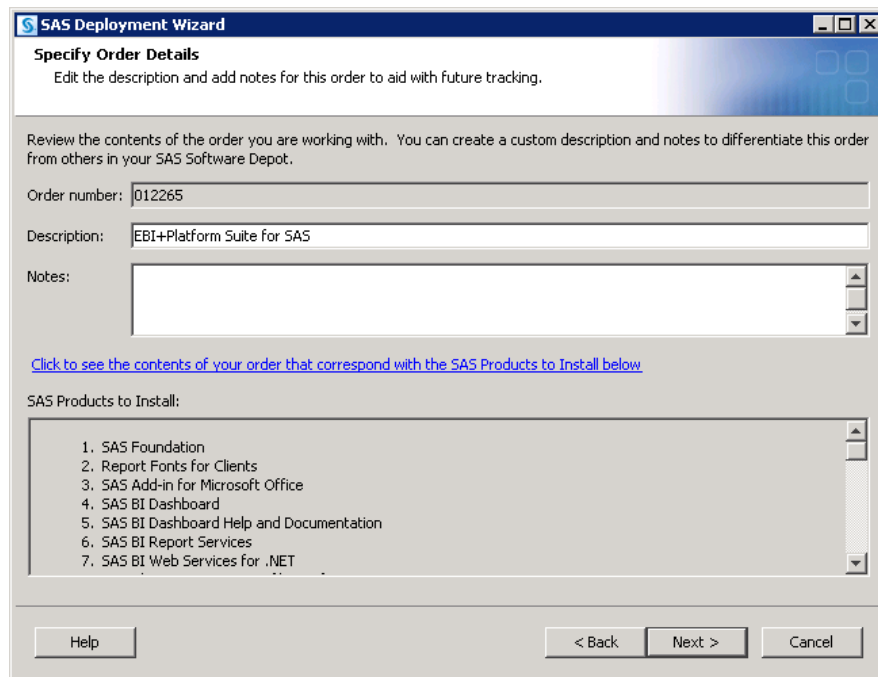
- 3 When prompted, select your language, and click **OK**.



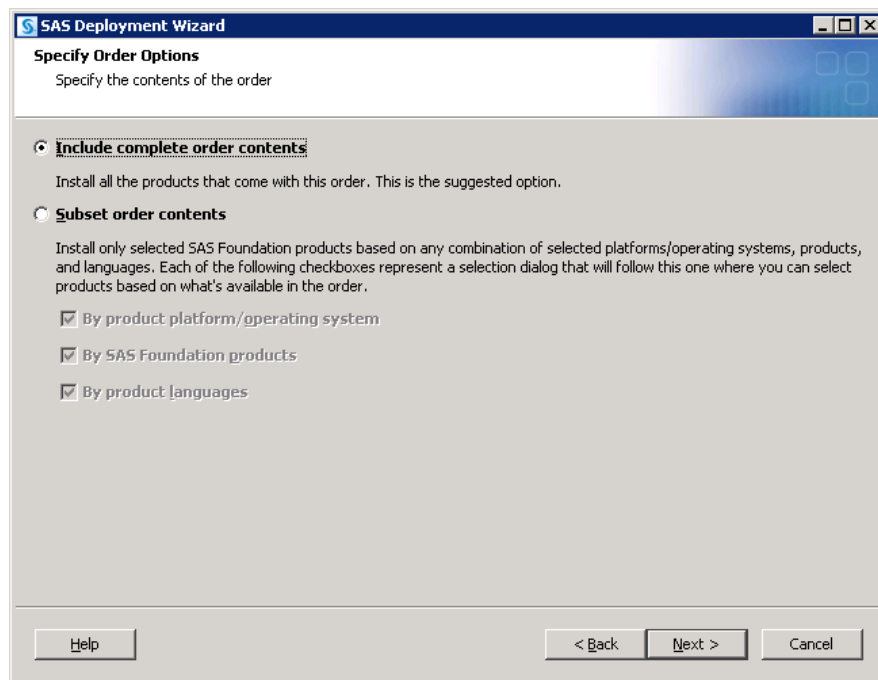
- 4 On the Select Deployment Task page of the SAS Deployment Wizard, select **Create or Add to a SAS Software Depot**.



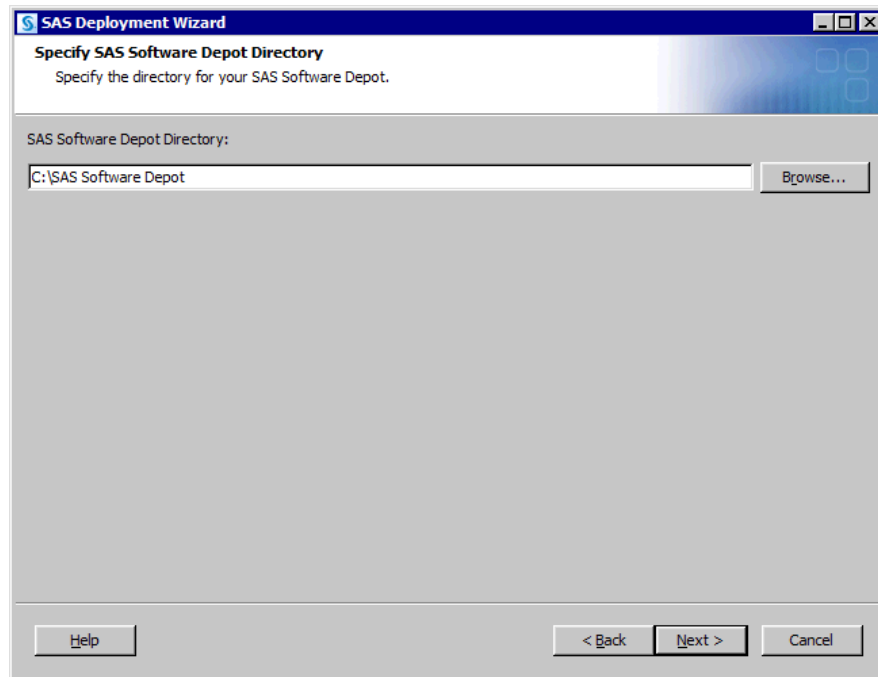
- 5 On the Specify Order Details page, click **Next**.



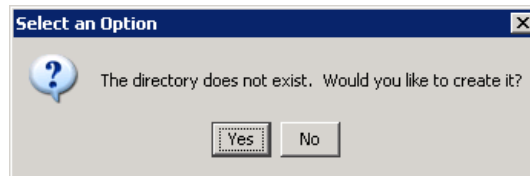
- 6 On the Specify Order Options page, select **Include complete order contents**, and click **Next**.



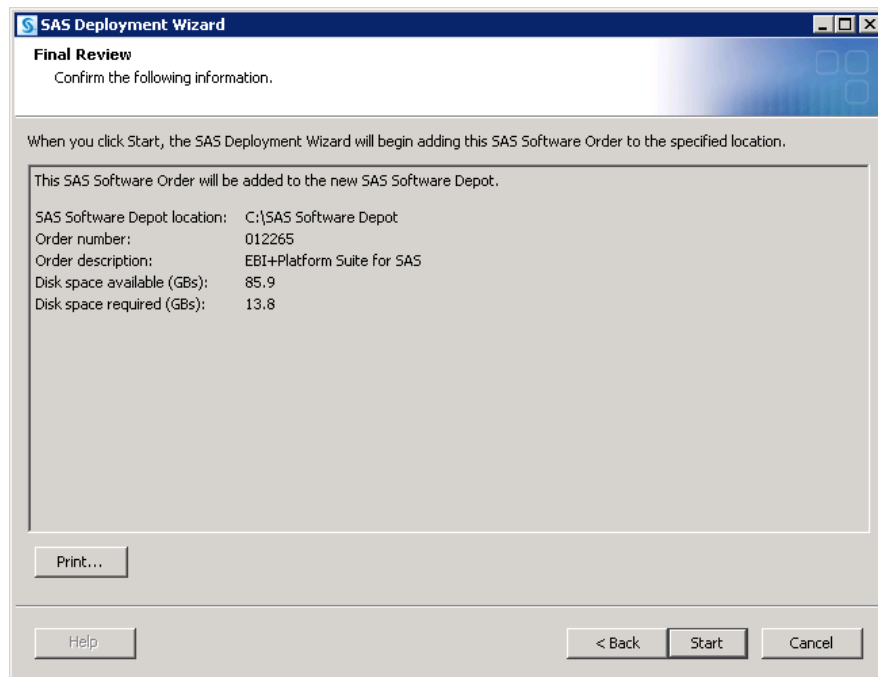
- 7 On the Specify SAS Software Depot Directory page, specify the location where you want to create your SAS Software Depot, and click **Next**. The location can be on the local machine or it can be on a network drive.



- 8 If the directory that you specify does not exist, the wizard prompts you. If you want it to create the directory for you, click **Yes**.



- 9 On the Final Review page, click **Start** to create the SAS Software Depot.



Step 2: Check for Documentation Updates

It is very important to check for late-breaking installation information in SAS Notes and to review the system requirements for your SAS software.

- [SAS Notes](#)
- system requirements

System Requirements--SAS Visual Analytics 7.2 (Distributed or Non-distributed LASR), available at <http://support.sas.com/documentation/installcenter/en/ikvisanlytofrsr/68641/HTML/default/index.html>.

Step 3: Prepare Your Environment

Overview of Prepare Your Environment

Before you can deploy your SAS software, you need to prepare your *server* machine. This includes:

- [Review your pre-installation checklist.](#)
- [Set up required operating system user accounts.](#)
- [Create the required operating system group.](#)
- [Install third-party software required by SAS Visual Analytics.](#)

Review Your Pre-Installation Checklist

Your SAS software order contains a pre-installation checklist that gives a comprehensive list of actions that you must do to prepare your system before deploying SAS Visual Analytics.

The checklist is located in your SAS Software Depot in the `plan_files` directory. Checklists are bundled with deployment plans, topology diagrams, and other documents. All of these are available on support.sas.com.

Set Up User Accounts

User accounts that are needed for your SAS deployment can be either local accounts on the machine on which you are deploying SAS, or domain accounts that have access to the machine. Although you can use your own account names, SAS recommends using the names that are listed in the following table. If you choose to use different account names, be sure to record the names for future reference.

Table 1.1 Pre-installation Checklist for User Accounts

User Account	Operating System	Recommended User ID User Rights Needed
SAS Installer	Both	<i>my-domain\sas</i> or <i>my-machine\sas</i>
	Windows	Log on as a batch job
	Linux	The group that you designate as the <i>primary</i> group for the SAS installer must contain the SAS Spawnd Servers account.
SAS Spawnd Servers*	Both	<i>my-domain\sassrv</i> or <i>my-machine\sassrv</i>
	Windows	Log on as a batch job
	Linux	Member of a group that is the <i>primary</i> group for the SAS installer. (This group does not have to be the primary group for the SAS Spawnd Servers account.)
SAS First User*	Both	<i>my-domain\sasdemo</i> or <i>my-machine\sasdemo</i>
	Windows	Log on as a batch job
	Linux	

* The SAS Deployment Wizard automatically assigns the *Log on as a batch job* right to the SAS Spawnd Servers account and SAS First User account.

The accounts that are listed in the preceding table have the following purposes:

- SAS Installer is used to install SAS. After you create the account, log on to the machine with this account to perform the deployment. It is recommended that this account remain available for future SAS maintenance and updates.
- SAS Spawnd Servers is the process owner for SAS Stored Process Servers and SAS Pooled Workspace Servers on the machine. During the SAS deployment, the SAS Deployment Wizard prompts you to enter the account name and password for this account.
- SAS First User is used for demonstration purposes. This account is often referred to as *sasdemo*. During the SAS deployment, the SAS Deployment Wizard prompts you to specify the account name for this account. The SAS First User account is not a required account. However, it is used for the purposes of this installation guide.

Set Up an Operating System Group

Set Up the SAS Server Users Group (Windows)

To run SAS on Windows, users must have the `Log on as a batch job` right on the machine that hosts the server. We recommend that you create a group on the server, add SAS users to the group, and then assign that group the `Log on as a batch job` right.

Note: The SAS Deployment Wizard automatically assigns the `Log on as a batch job` right for the SAS Spawned Servers account and SAS First User account.

To create the SAS Server Users group and assign the `Log on as a batch job` right, do the following:

- 1 Click **Start**. In the **Search programs and files** field, enter `Computer Management`, and select it from the **Start** menu when it appears.
- 2 Expand **Local Users and Groups**.
- 3 Right-click **Groups**, and select **New Group**.
- 4 Name the group “SAS Server Users,” and click **Create**.
- 5 Assign the **Log on as a batch job** right to the new SAS Server Users group.
Click **Start**. In the **Search programs and files** field, enter `Local Security Policy`, and select it from the **Start** menu when it appears.
- 6 In the left pane of the Local Security Policy window, expand **Local Policies**, and click **User Rights Assignment**.
- 7 In the right pane under the **Policy** column, double-click **Log on as a batch job**. This displays the Log on as a batch job Properties dialog box.
- 8 On the **Local Security Setting** tab, click **Add User or Group**. In the **Enter the object names to select** field, enter `SAS Server Users`, and click **Check Names** to select the **SAS Server Users** group. Then, click **OK** to return to the Log on as a Batch Job Properties dialog box. Verify that the new group that you created appears in the text box on the **Local Security Setting** tab.
- 9 Click **OK** to close the dialog box and return to the Local Security Policy window.

In the future, any new SAS users that you add to your SAS system can be granted the `Log on as a batch job` right by adding them to the SAS Server Users group in Windows. Because the SAS Server Users group was assigned the `Log on as a batch job` right, it is not necessary to explicitly assign this right to users in the Local Security Policy window.

Set Up the sas Group (Linux)

To run SAS on Linux, you should create an operating system group (`sas`) and make it the *primary* group for the Linux SAS installer user. The SAS Spawned Servers account should be made a member of the `sas` group. (Members of this

group are given access to certain directories and files created by the SAS Deployment Wizard.)

For information about creating groups and adding user accounts, see your Linux documentation.

Download and Install Required Third-Party Software

SAS Visual Analytics requires that your machine have the following third-party software installed:

- Windows PowerShell

Windows PowerShell is a configuration management and task automation framework from Microsoft that is required by SAS Visual Analytics.

Later, you are prompted for the Windows PowerShell installation path here: [Step 18 on page 21](#).

- Python

Python is a general-purpose programming language required by SAS Information Retrieval Studio.

Later, you are prompted for the Python installation path here: [Step 17 on page 20](#).

- JUnit

To run certain test suites, the SAS Deployment Tester requires JUnit, which is an open-source framework for writing and running tests in the Java programming language.

Later, you are prompted for the JUnit installation path here: [Step 56 on page 41](#).

If you need any of this software, you can download it from [SAS Support for Additional Software Products](#).

If your machine does not have this third-party software, note the location where you installed it. (See the following table.)

Table 1.2 Pre-installation Checklist for Third-Party Software

Third-Party Software	Default Installation Path	Actual Installation Path
Windows PowerShell	C:\Windows \System32\WindowsPowerShell v1.0	
Python	C:\Python27	
JUnit	C:\junit\junit-4.8.1.jar	

Step 4: Install and Configure SAS

To install and configure SAS Visual Analytics, you use a standard *deployment plan*. A deployment plan is similar to a recipe that tells the SAS Deployment Wizard how to install your software order.

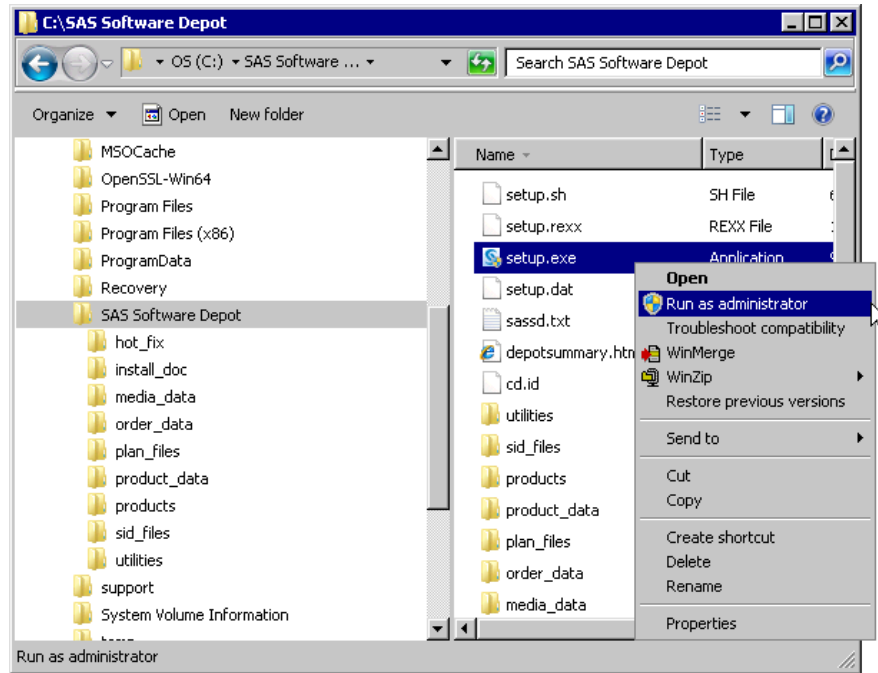
Later in this topic, you are asked to choose between two standard deployment plans that are labeled **SAS Visual Analytics, two machines**. The first machine contains the SAS Visual Analytics server tier, middle tier, and administrative clients. The second machine contains administrative clients. These two plans differ only in that one plan is used for a Windows server and middle tier, and the other plan is used for a Linux server and middle tier.

This topic describes how to deploy SAS Visual Analytics on the server and middle tier machine. If you want to deploy on additional *client* machines, then rerun the deployment wizard on one or more additional machines, making sure to select **Step 4: Clients** on the [Select Deployment Step and Products to Install page on page 16](#).

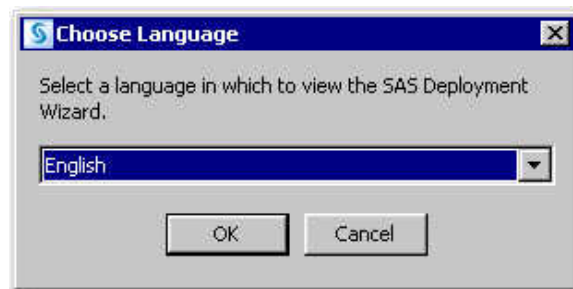
Note: Actually, these deployment plans can accommodate additional machines if you want to cluster your SAS Metadata Server (Step 2) or your middle tier (Step 3). For more information, see [SAS Visual Analytics: Installation and Configuration Guide \(Distributed SAS LASR\)](#).

To install and configure SAS Visual Analytics on a single machine, follow these steps:

- 1 Log on to the machine using the SAS installer account that you created earlier or using an account that is a member of the Windows Administrators group.
- 2 Temporarily disable all anti-virus, anti-malware, anti-spyware, and firewall software. These types of programs can interfere with the deployment process and block files as they are being copied and extracted.
- 3 On Windows, start Windows Explorer, and navigate to the highest-level directory in your SAS Software Depot. Right-click `setup.exe`, and select **Run as administrator**. On Linux, navigate to the highest-level directory in your SAS Software Depot, and run `setup.sh`.



4

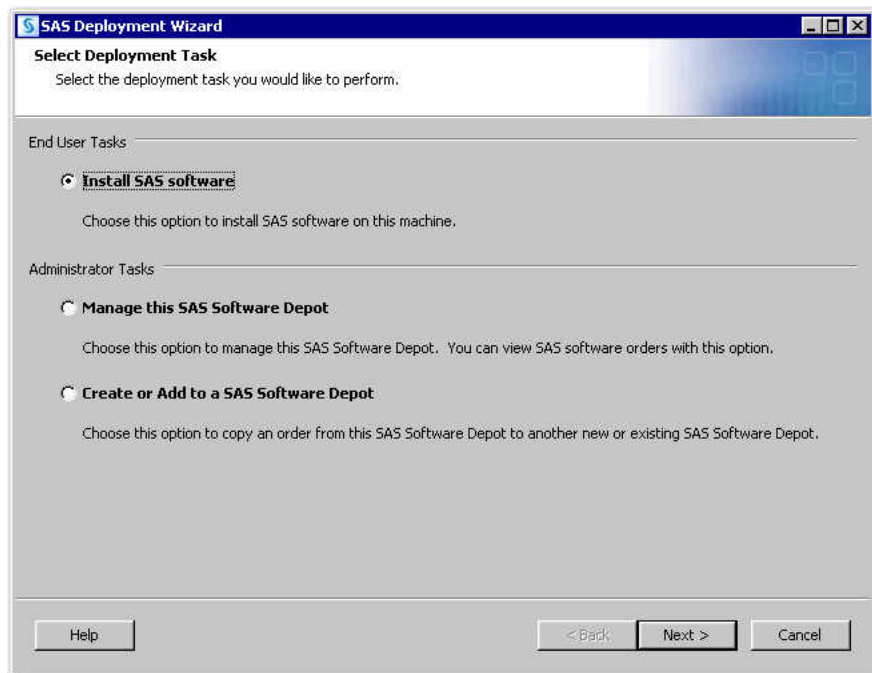


Choose Language

- From the drop-down list, select the language that you want the SAS Deployment Wizard to use when it displays text, and click **OK**.

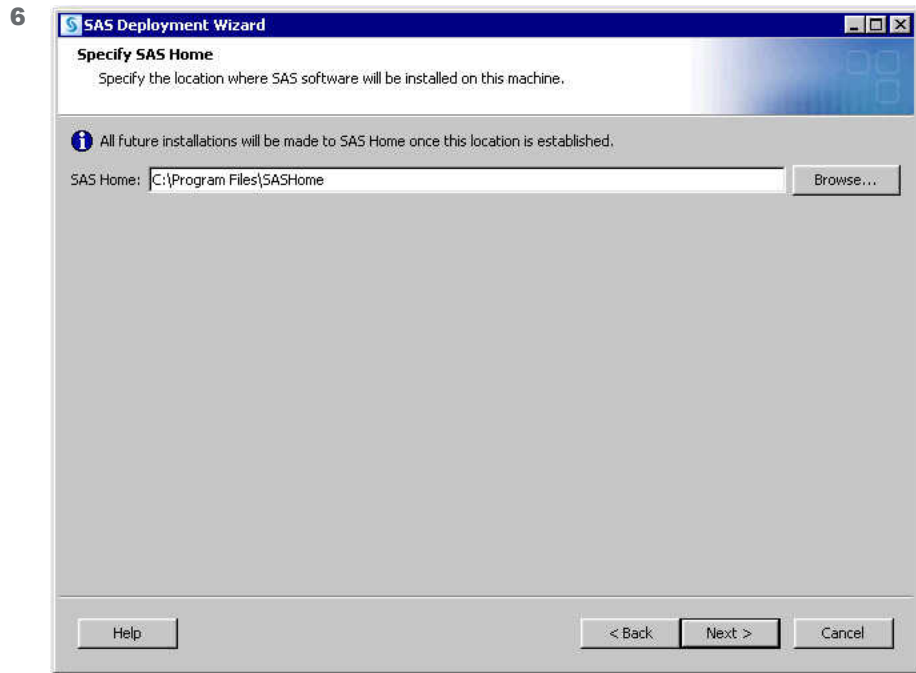


5



Select Deployment Task

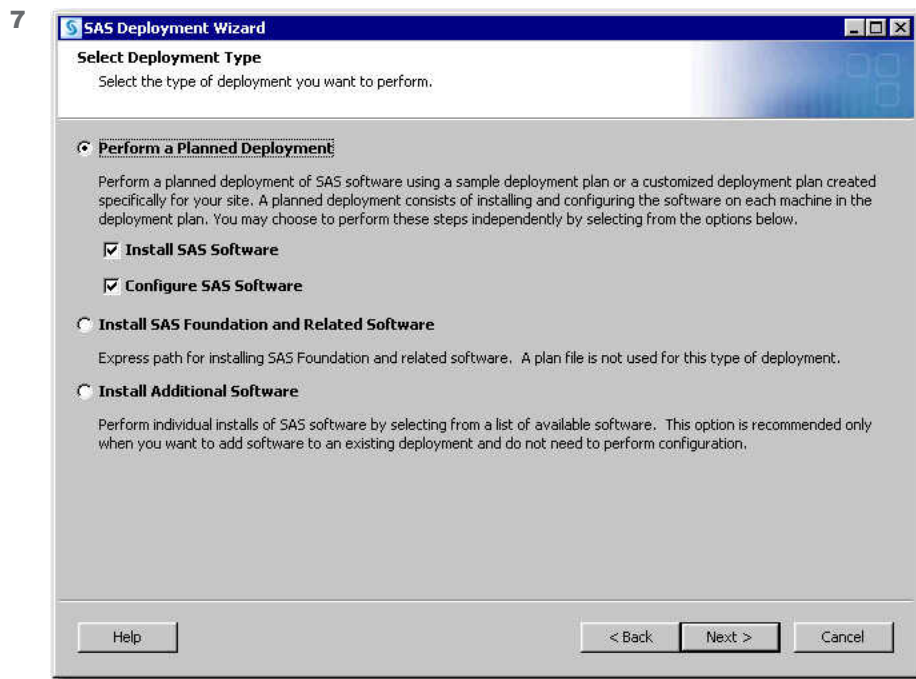
- Select **Install SAS Software**, and click **Next**.



Specify SAS Home

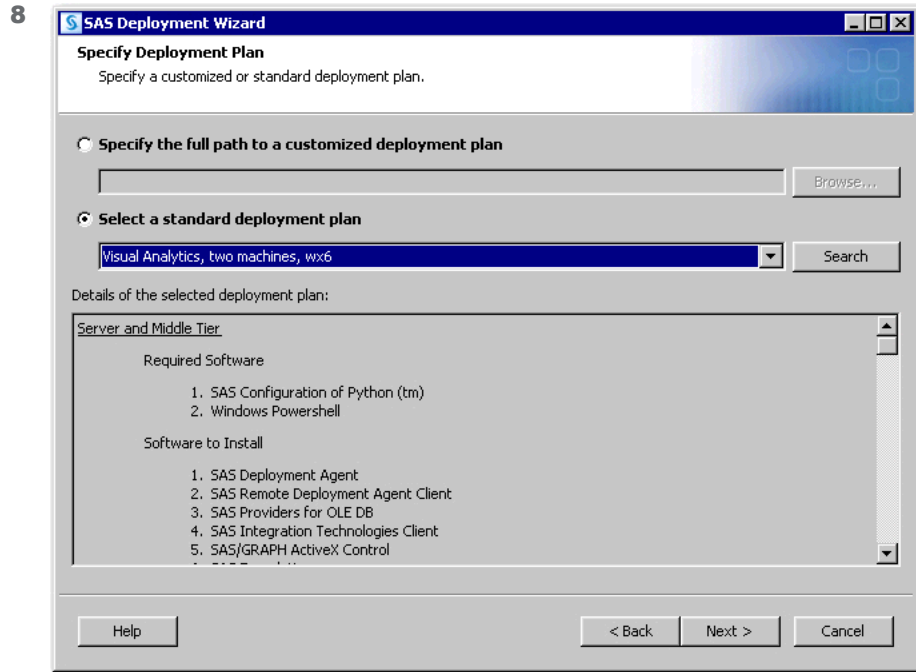
- If you want to specify a different location where SAS is installed other than the default, enter this path in **SAS Home**. Click **Next**.

Although your SAS installation directory (which the wizard refers to as SAS Home) and SAS configuration directories can share the same parent directory, one directory *cannot* reside inside another. Also, the SAS installation directory should *not* be a directory within your SAS Software Depot.



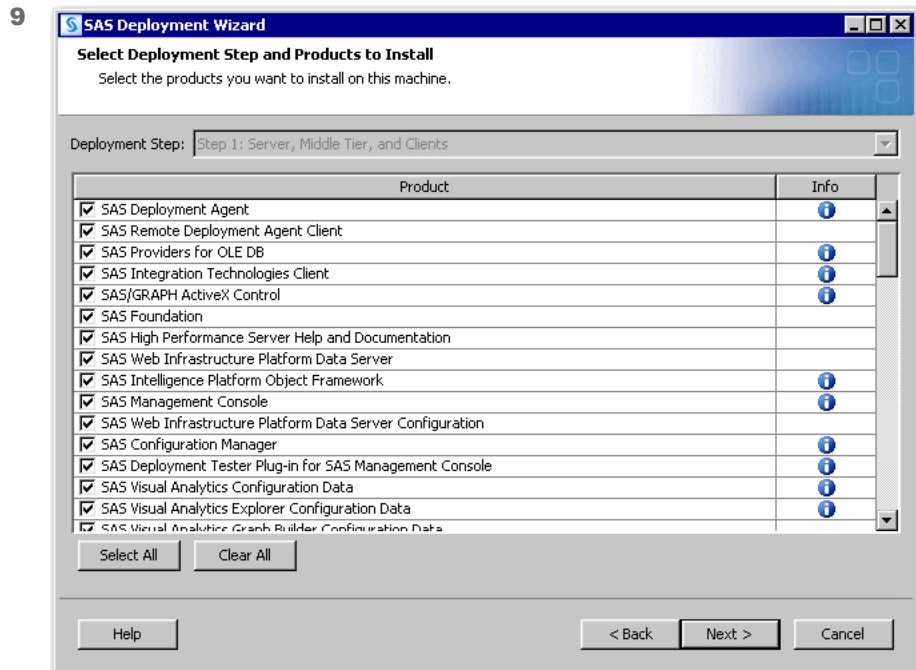
Select Deployment Type

- Confirm that **Perform a Planned Deployment, Install SAS Software, and Configure SAS Software** are all selected. Click **Next**.



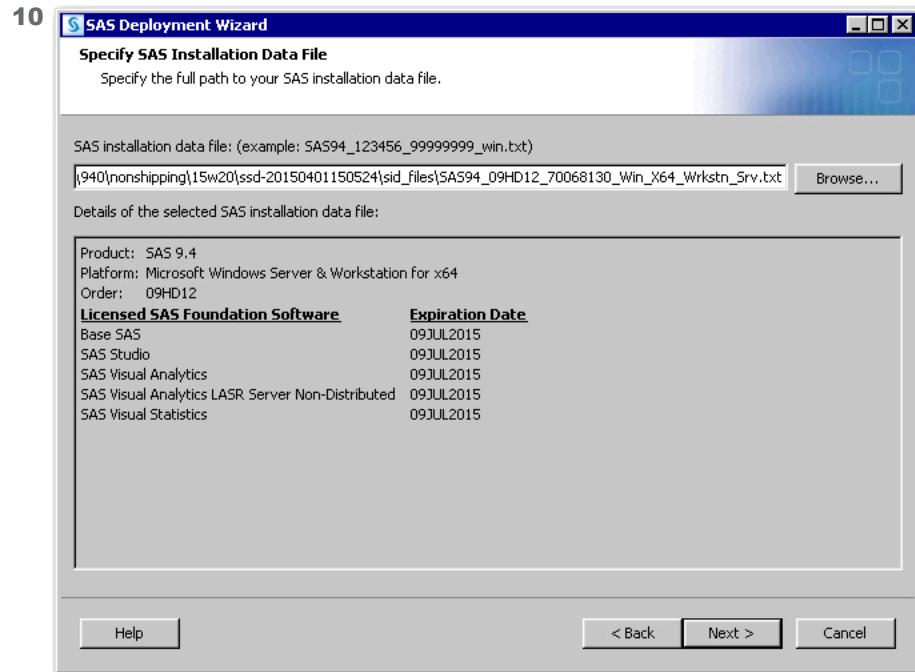
Specify Deployment Plan

- Select **Select a standard deployment plan**.
- On Windows, from the drop-down menu, select **SAS Visual Analytics, two machines, wx6**.
- On Linux, from the drop-down menu, select **SAS Visual Analytics, two machines, lax and wx6**. Click **Next**.



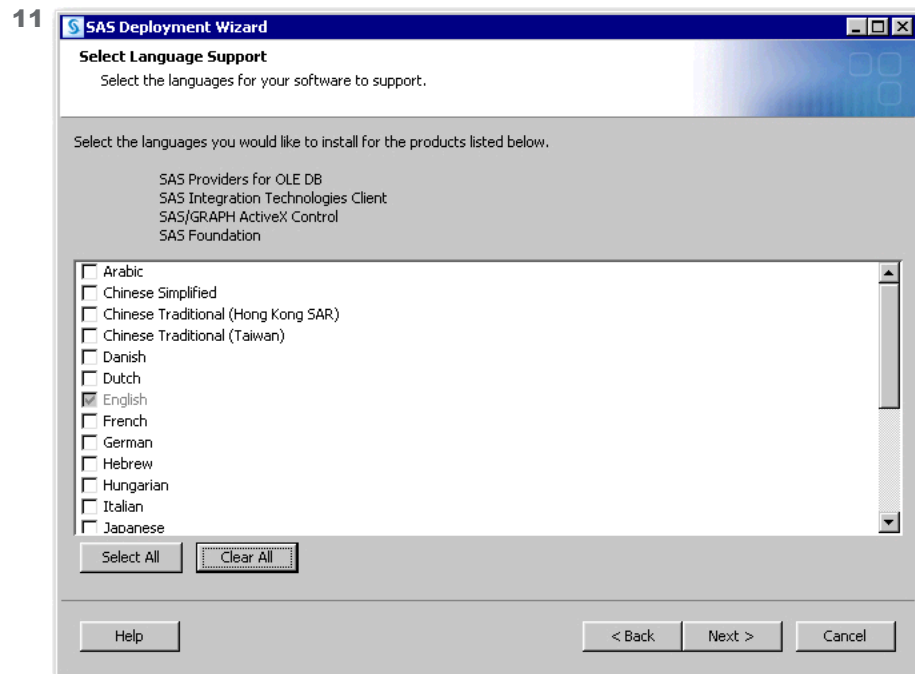
Select Deployment Step and Products to Install

- In **Deployment Step**, make sure that **Step 1: Server and Middle Tier** is selected. Click **Next**.



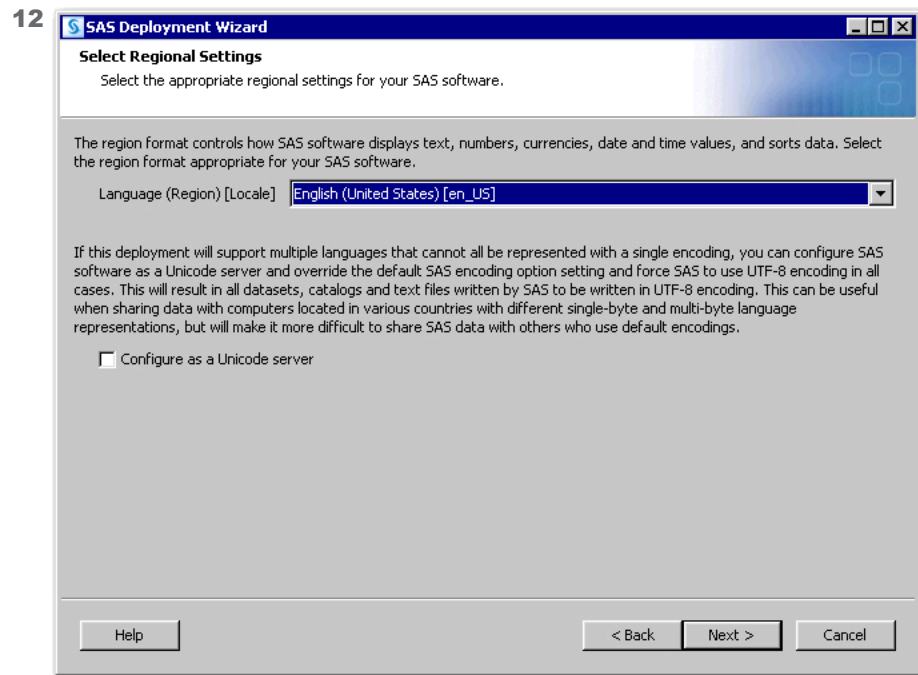
Specify SAS Installation Data File

- Click **Browse**, locate your SAS installation data file, and then click **Next**.



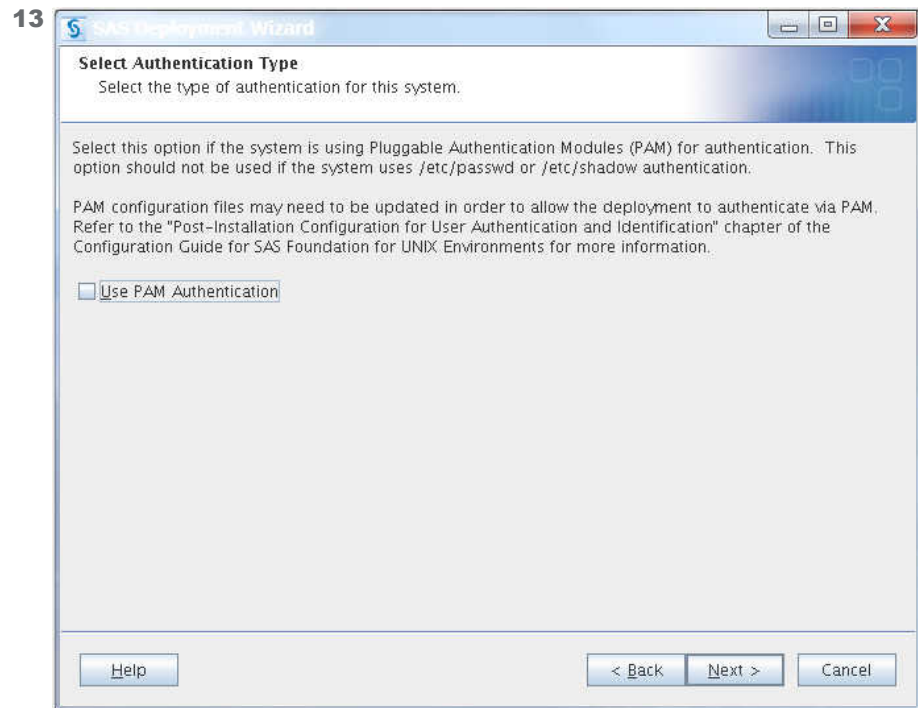
Select Language Support

- Click **Clear All**. (English remains selected as the default language.)
- Add any additional languages that you want SAS to support, and then click **Next**.



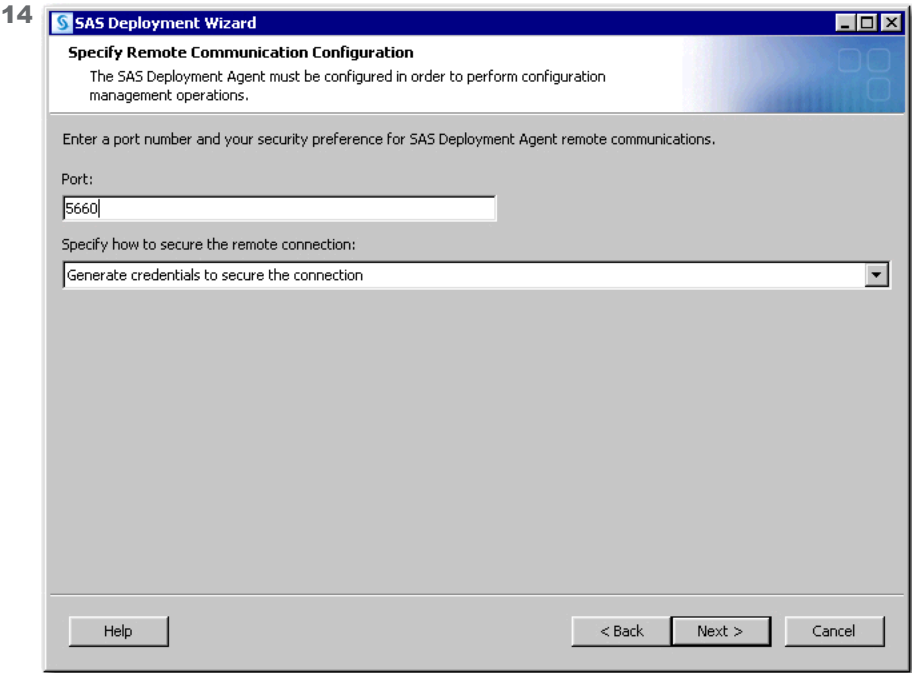
Select Regional Settings

- Accept the default value of English (United States), or select a different language, region, and locale in **Language (Region) [Locale]**. Click **Next**.



Select Authentication Type (Linux only)

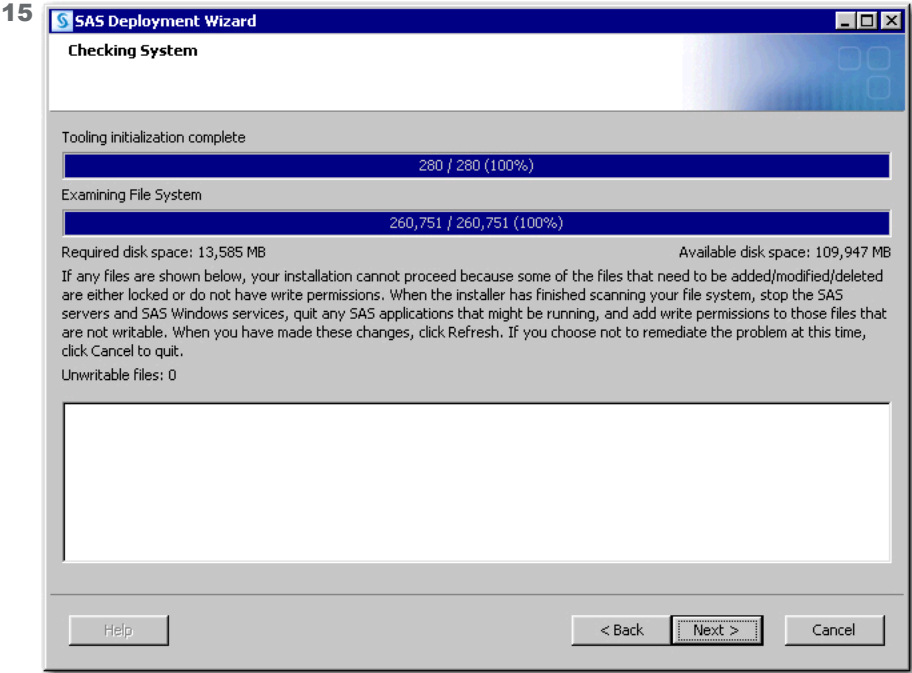
- Do not change any of the default values displayed on this page. Click **Next**.



Note: Generally speaking, you should not change any port values unless a port is already used by another application. See your pre-installation checklist for the complete list of ports that SAS Visual Analytics requires. For more information, see [“Review Your Pre-Installation Checklist” on page 8.](#)

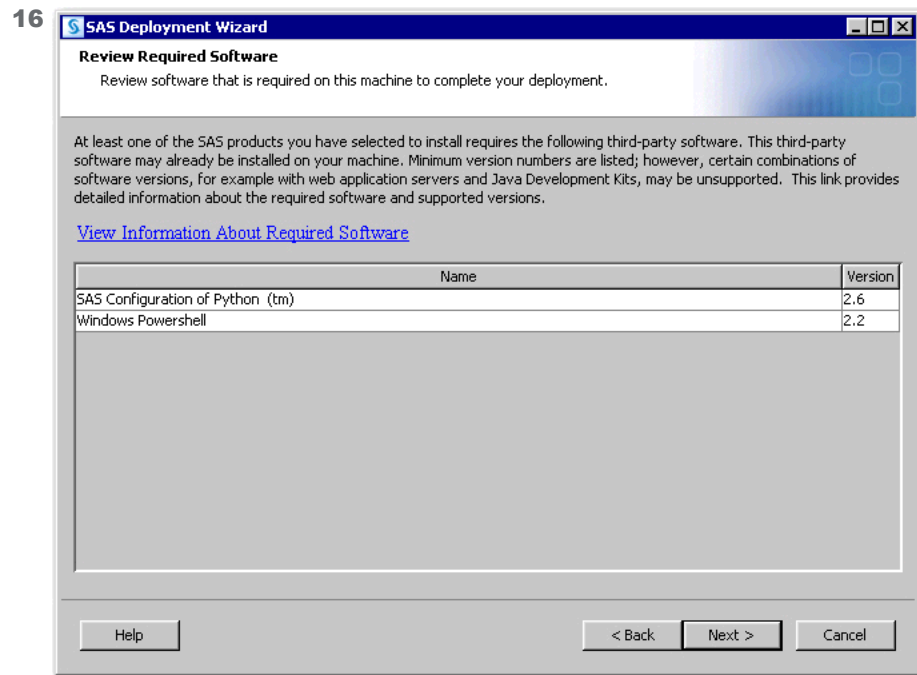
Specify Remote Communication Configuration

- Do not change the default information that is displayed on this page. Click **Next**.



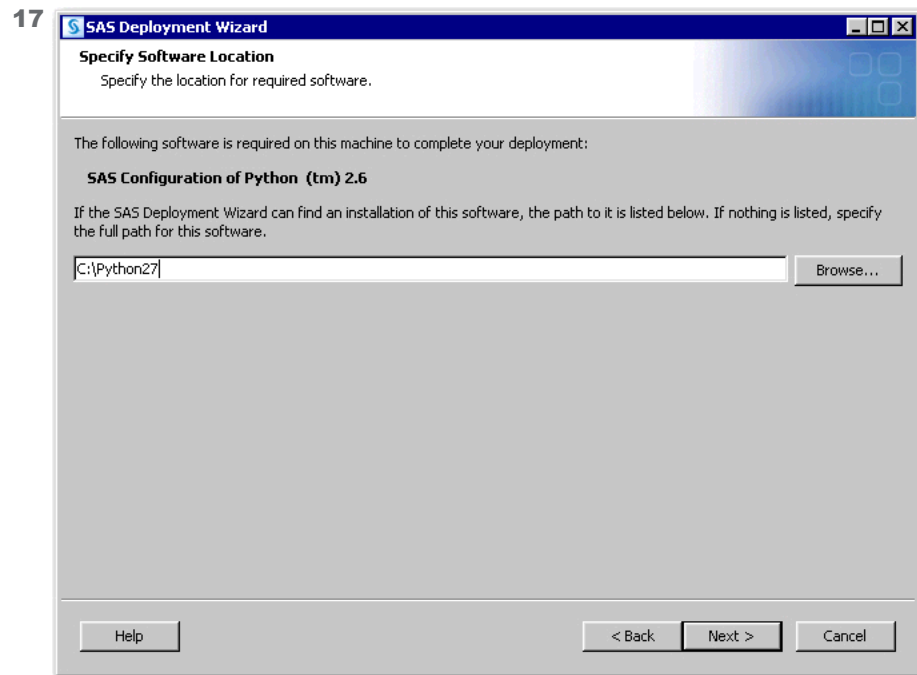
Checking System

- Wait while the SAS Deployment Wizard checks your system. When it is finished, click **Next**.



Review Required Software

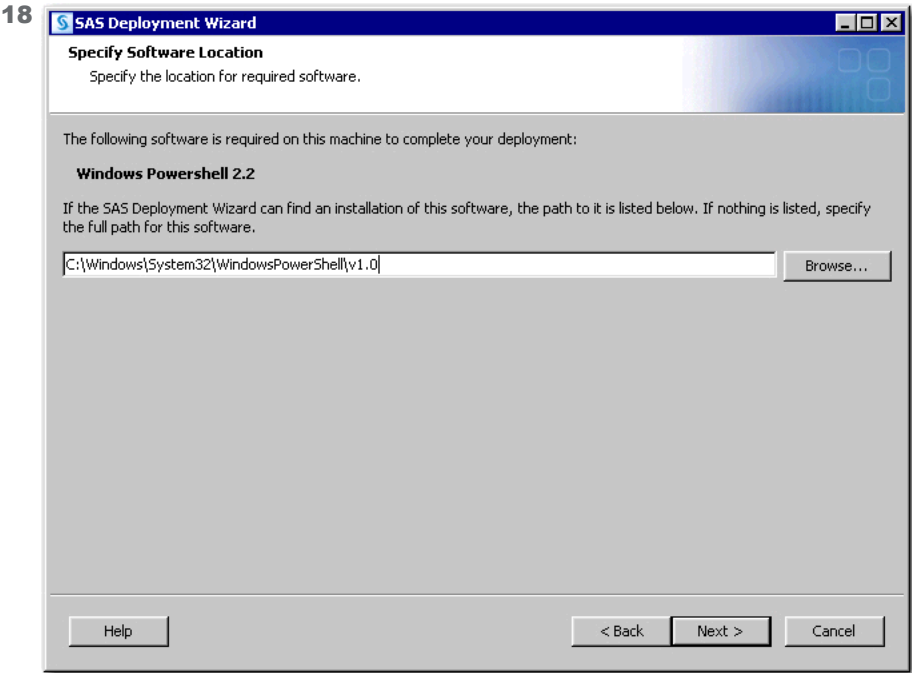
- Review the list of third-party software that is required for the SAS software that you are installing on the current machine. Click **Next**.



Specify Software Location

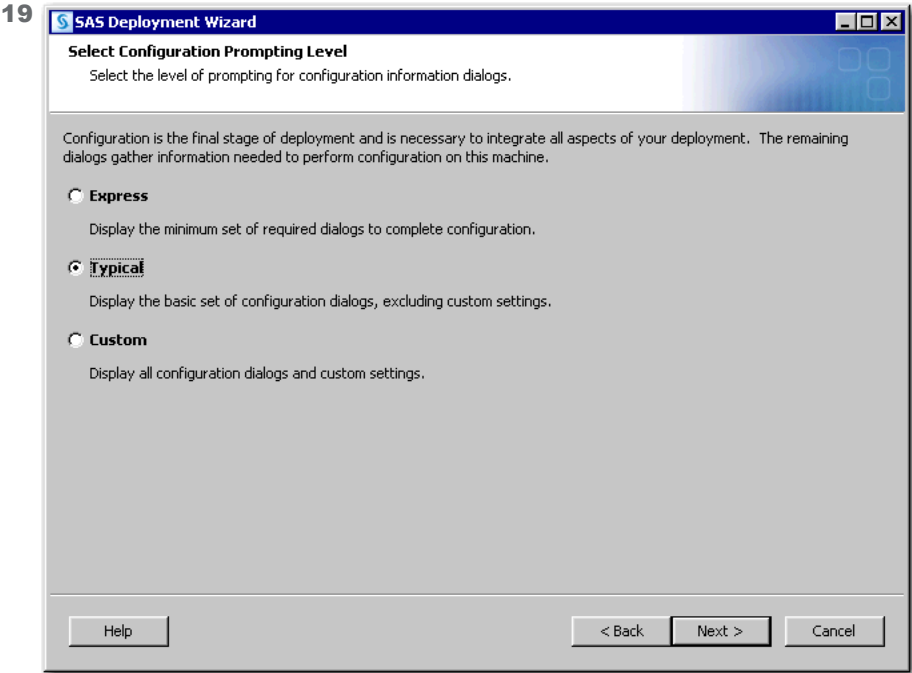
- Click **Next**.

If the path is incorrect, the wizard does not proceed. In this case, enter the correct path where the third-party software is installed that you recorded in [Table 1.2 on page 11](#). Click **Next**.



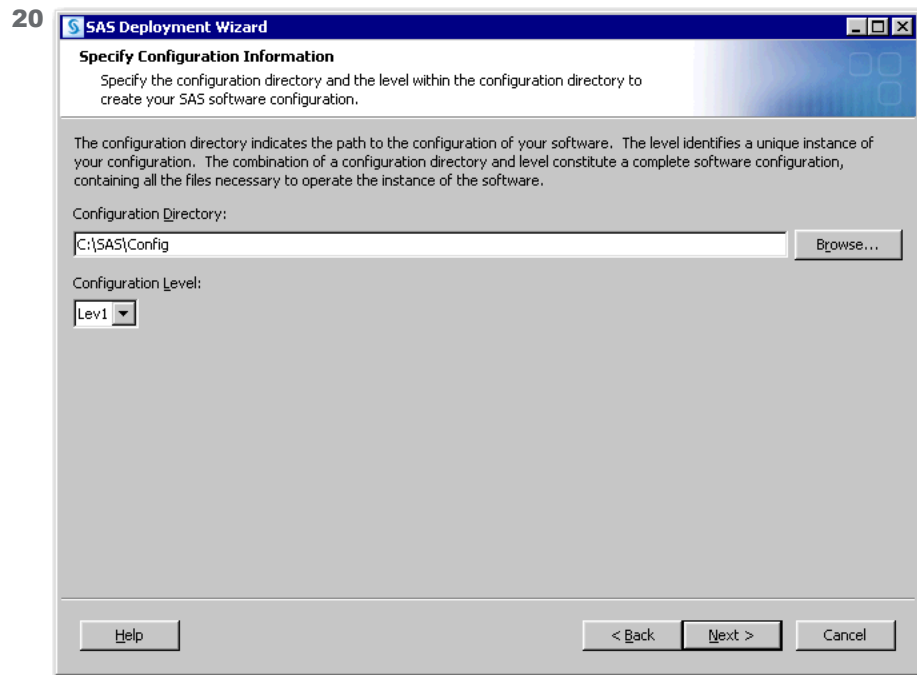
Specify Software Location

- Click **Next**.
If the path is incorrect, the wizard does not proceed. In this case, enter the correct path where the third-party software is installed that you recorded in [Table 1.2 on page 11](#). Click **Next**.



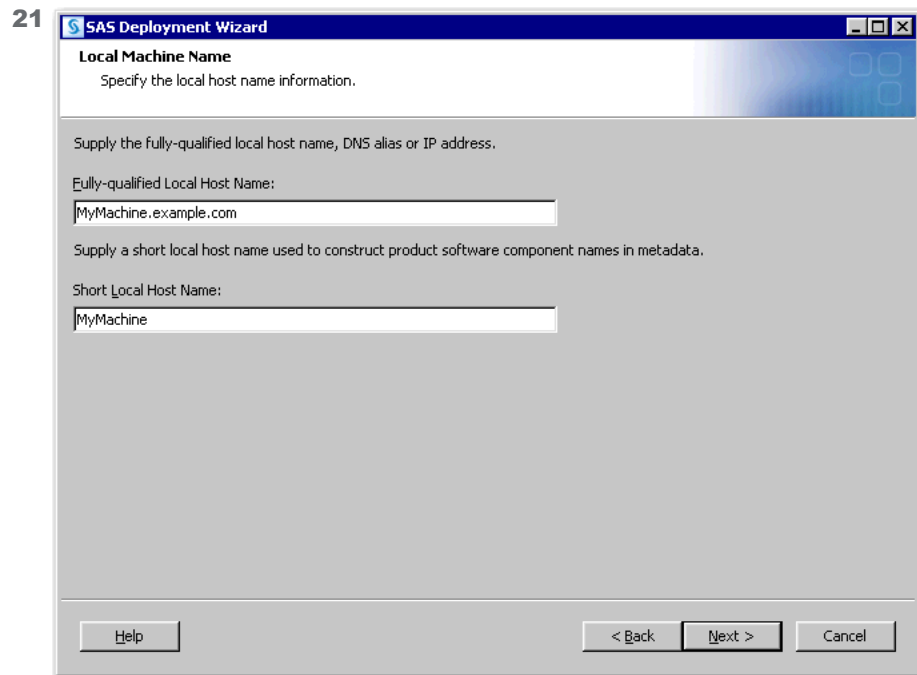
Select Configuration Prompting Level

- Make sure that **Typical** is selected, and click **Next**.



Specify Configuration Information

- Do not change the default information that is displayed on this page. Click **Next**.



Local Machine Name

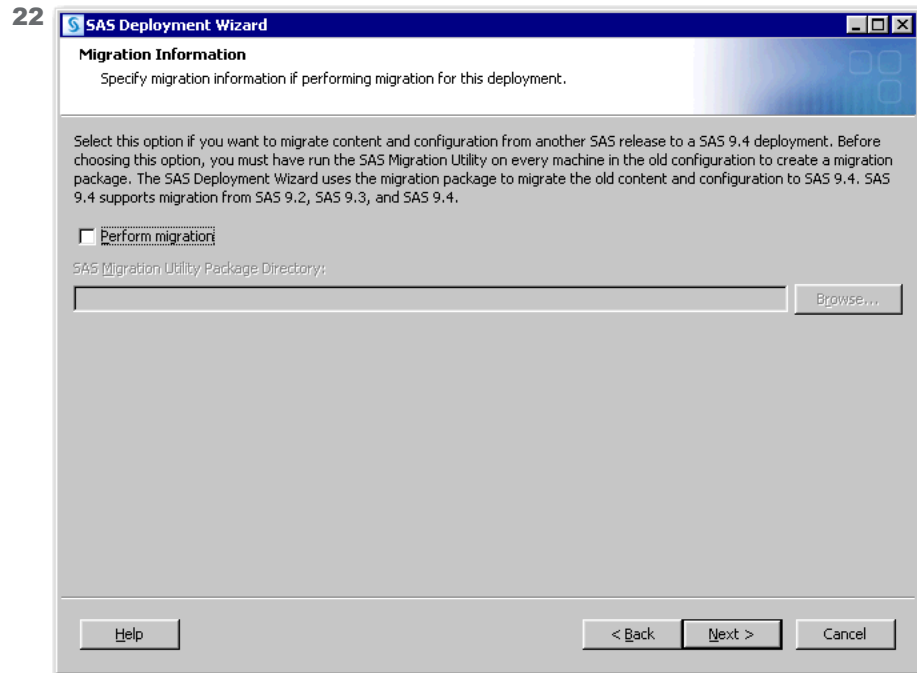
- In **Fully-qualified Local Host Name**, enter the complete name of the local host.

The fully qualified local host name typically takes the form of the local host name plus the domain name server (for example, MyMachine.example.com).

TIP If you do not know the domain name used at your site, check with your system administrator.

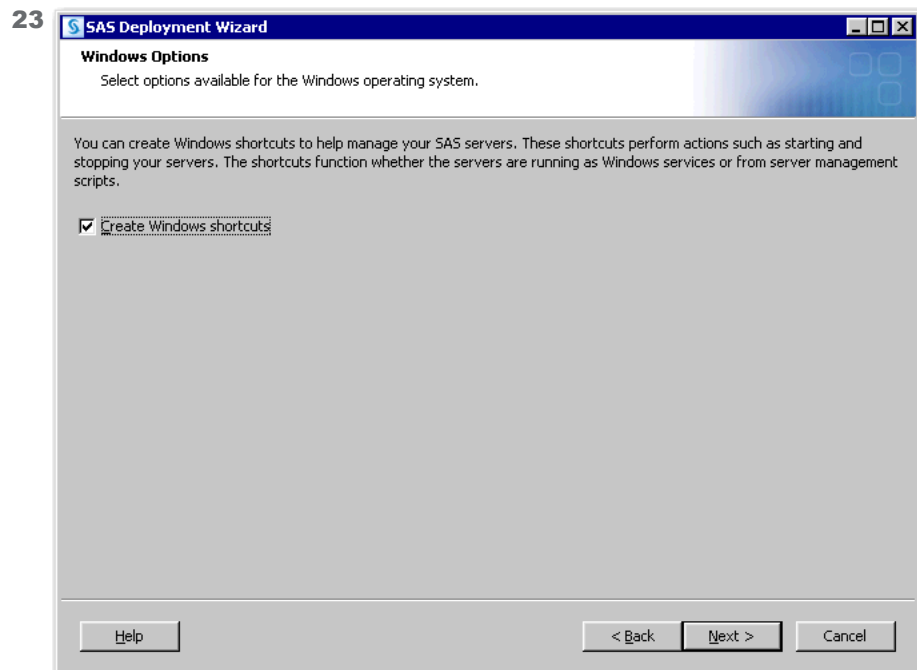
- In **Short Local Host Name**, enter a short host name.

The short local host name is the abbreviated, more common method of referring to the host, usually only a single word (for example, MyMachine).



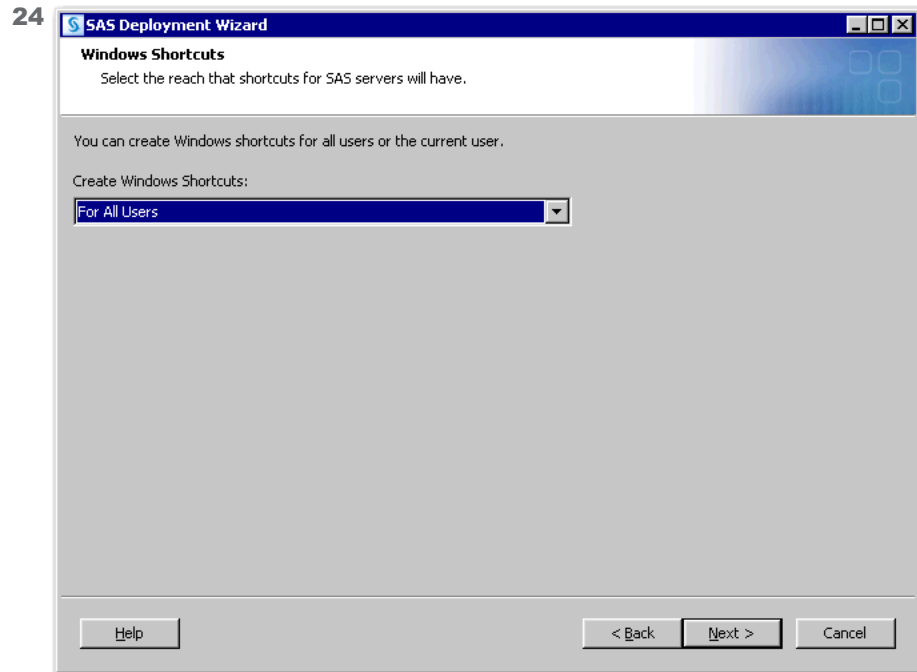
Migration Information

- Do *not* select **Perform migration**. Click **Next**.



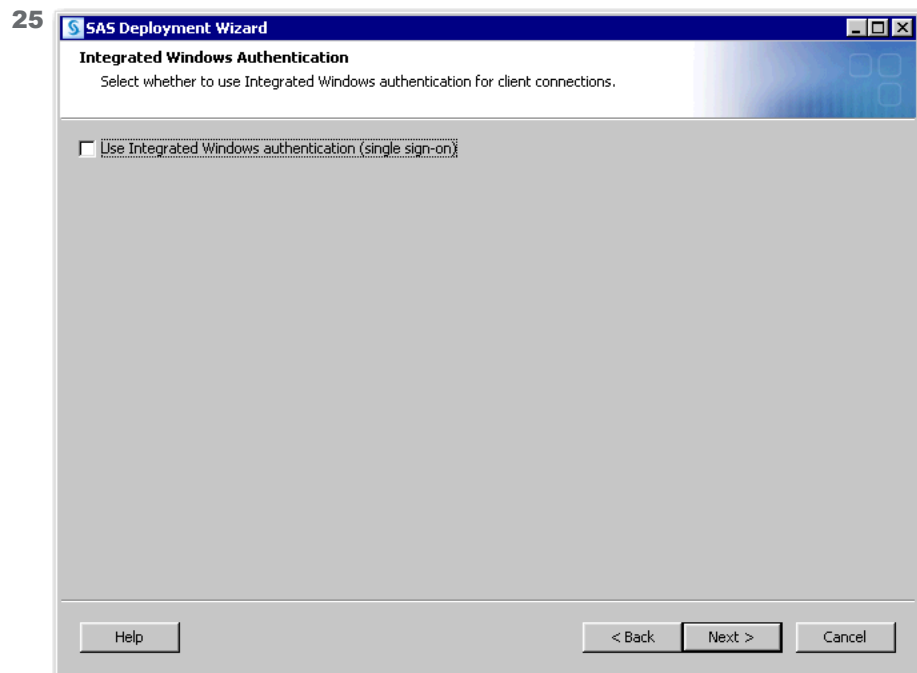
Windows Options (Windows only)

- Do not change any of the default values displayed on this page. Click **Next**.



Windows Shortcuts (Windows only)

- In **Create Windows Shortcuts**, make sure that **For All Users** is selected. Click **Next**.



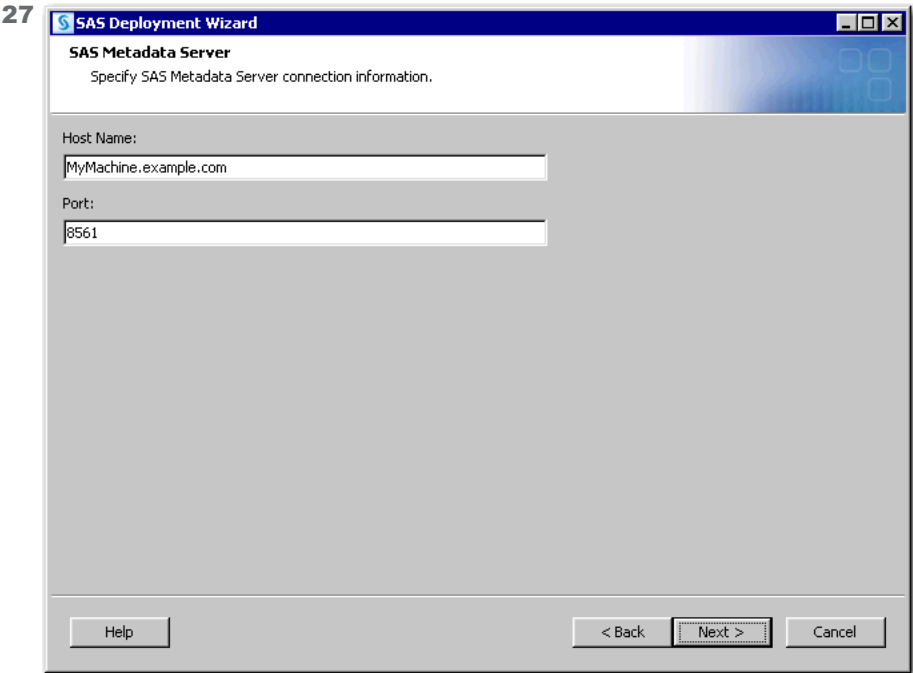
Integrated Windows Authentication

- Do *not* select **Use Integrated Windows authentication**. Click **Next**.



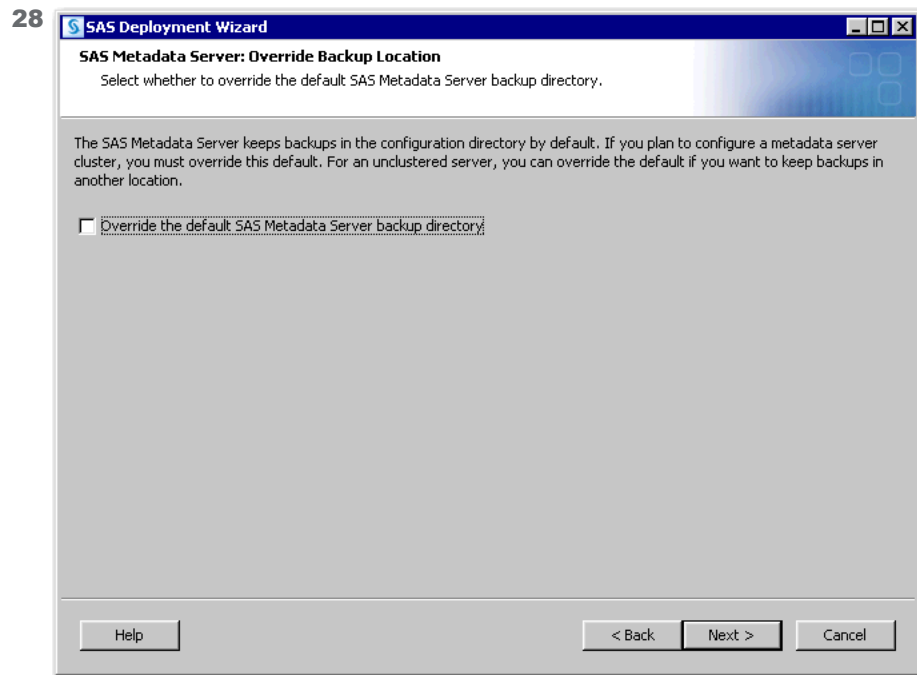
Token Based Authentication

- Do not select **Use SAS token authentication**. Click **Next**.



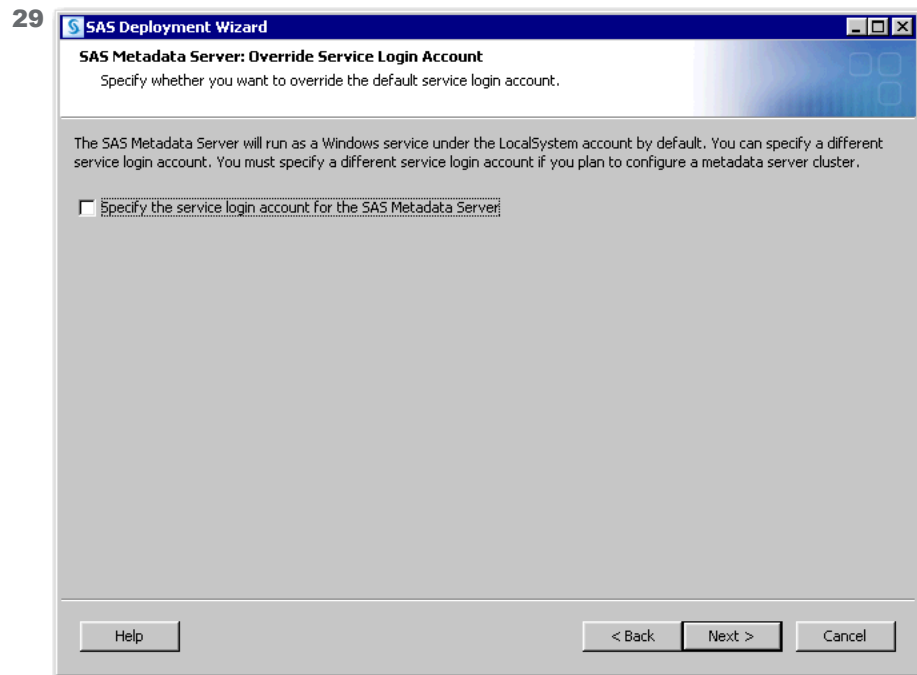
SAS Metadata Server

- Do not change the default information that is displayed on this page. Click **Next**.



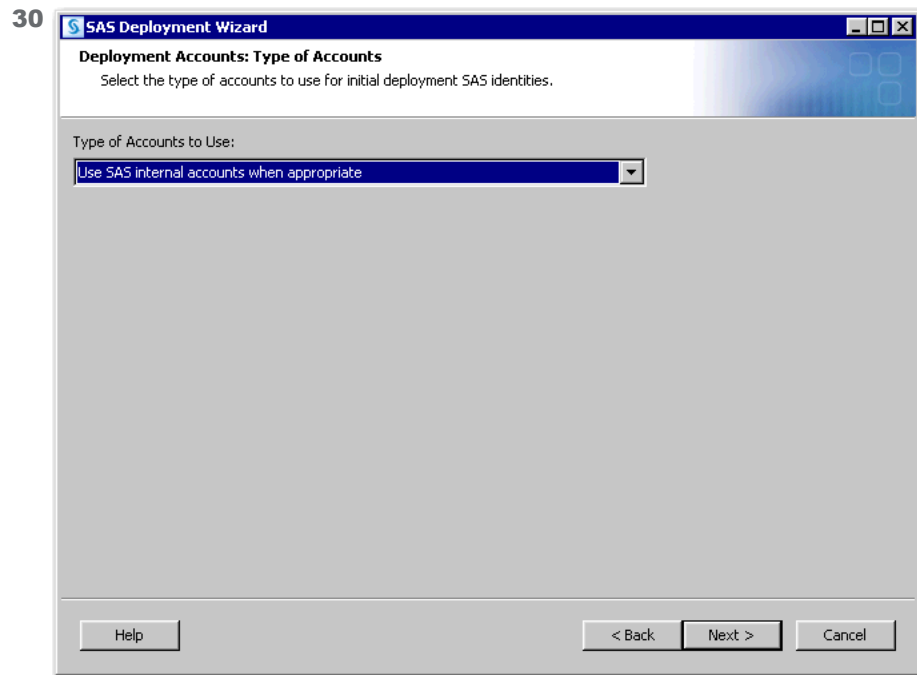
SAS Metadata Server: Override Backup Location

- Do not change the default information that is displayed on this page. Click **Next**.



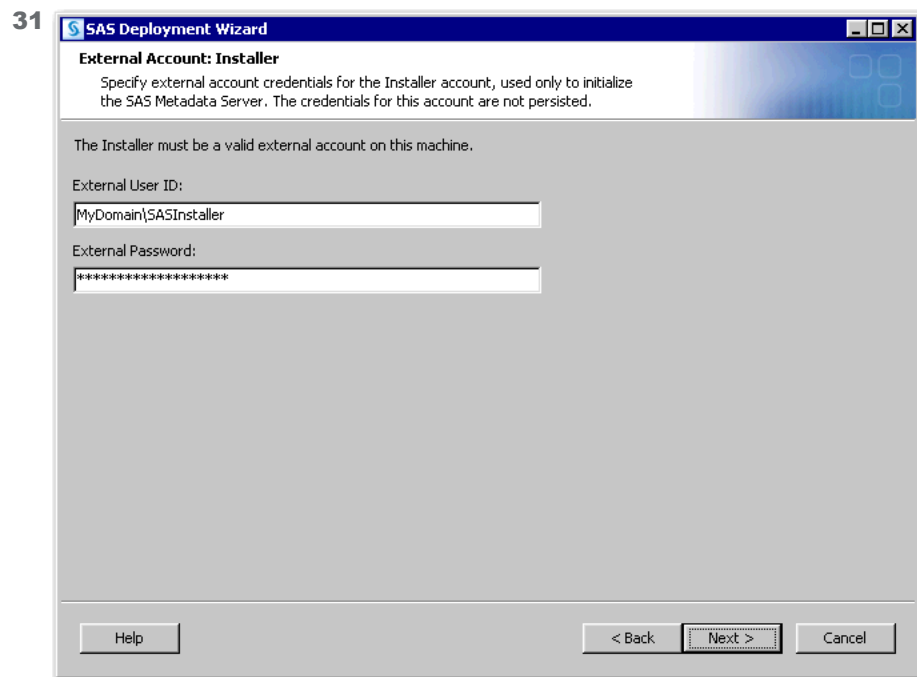
SAS Metadata Server: Override Service Login Account (Windows only)

- Do not change the default information that is displayed on this page. Click **Next**.



Deployment Accounts: Type of Accounts

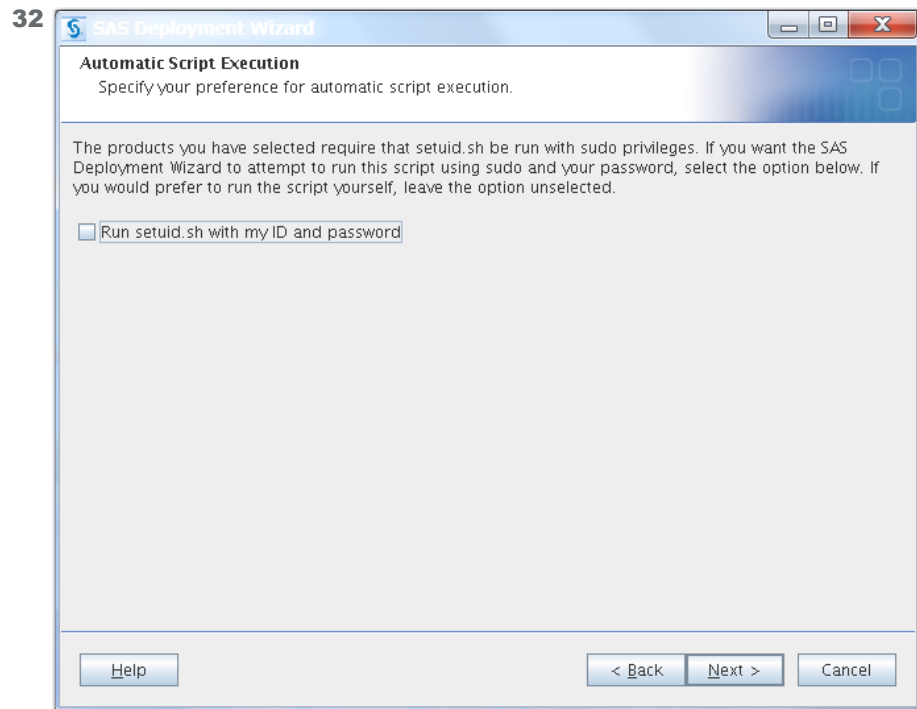
- Do not change the default information that is displayed on this page. Click **Next**.



External Account: Installer

- In the relevant fields, enter the user ID and password for the Installer account that you are using to install and configure SAS. (This should be the user account under which you are currently logged on.)

Prefix the user ID with either the domain or machine name (for example, *domain\user-ID* or *machine-name\user-ID*). Click **Next**.

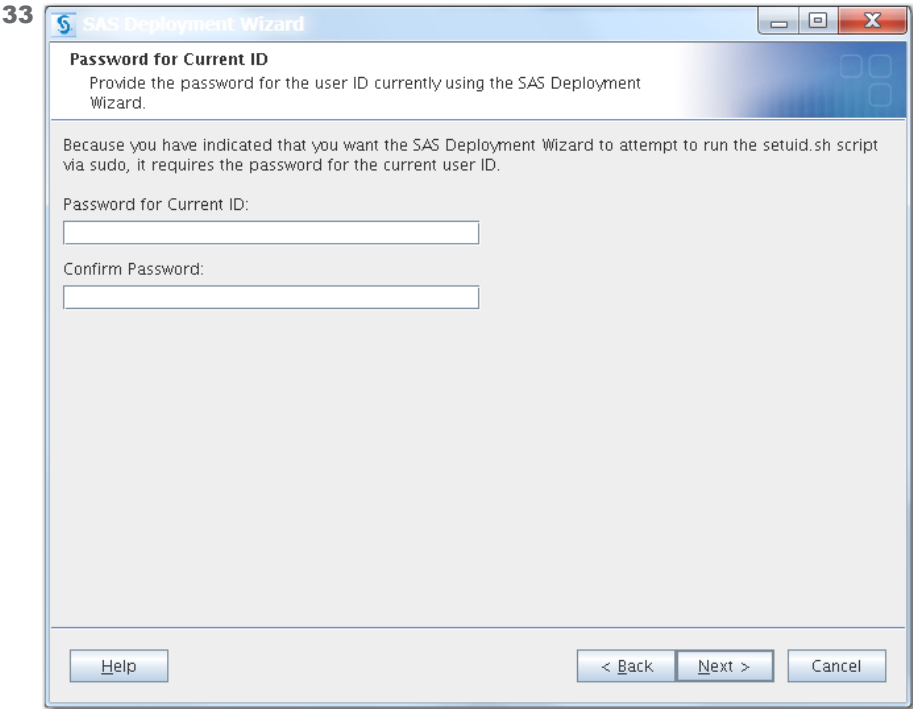


Automatic Script Execution (Linux only)

- Select **Run setuid.sh with my ID and password** for the deployment wizard to attempt to run the script with the credentials that you provide.

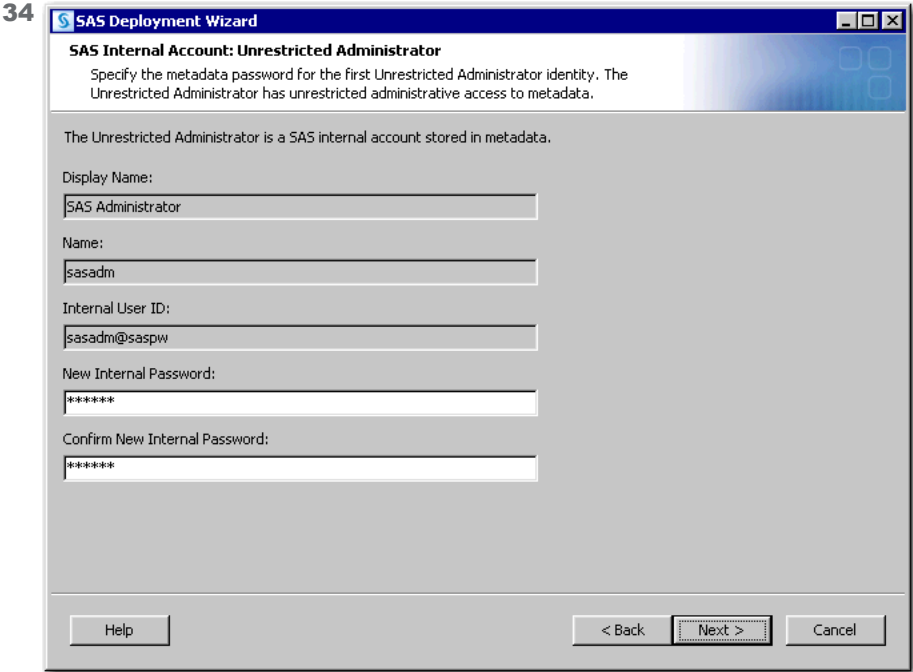
You see this page on Linux for SAS products that require you run the `setuid.sh` script with `sudo` privileges. If you select this option, you will be asked on a subsequent page for the `sudo` password (if you are deploying a metadata server, you have already provided this information), and as it installs your software, the deployment wizard attempts to run the script with the credentials that you provided.

If you do not select this option, you will have to run `setuid.sh` manually during installation (and configuration if you have chosen to configure) is complete. Note that `setuid.sh` must be run as root in order to complete successfully. If you have any concerns with the SAS Deployment Wizard running as root or you do not know the `sudo` information for the machine that you are installing on, you should not select this option. For more information, see [Step 95 on page 62](#).



33 Password for Current ID (Linux only)

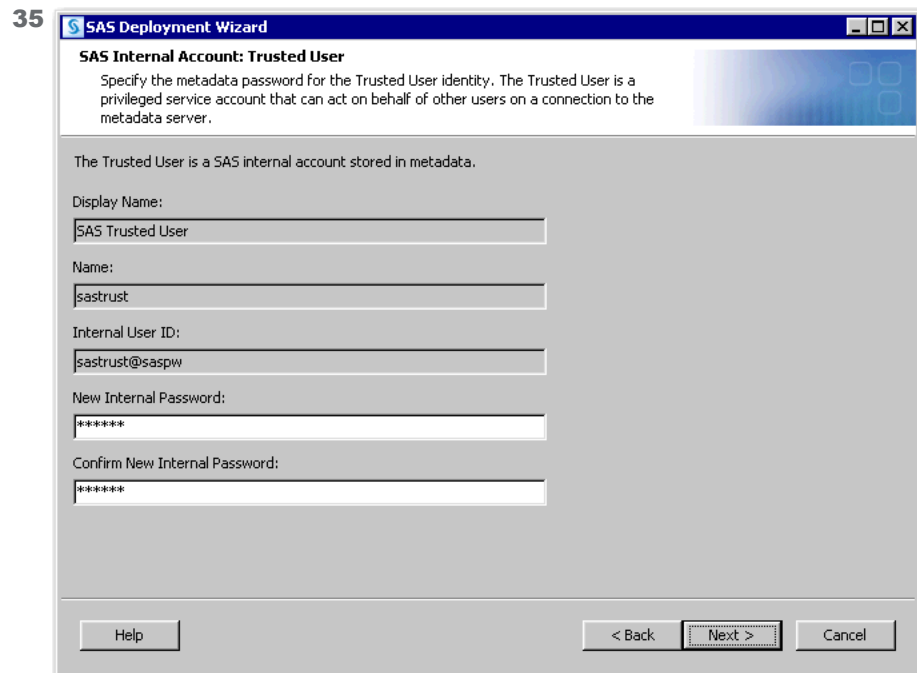
- In **Password for Current ID** enter the password for the current account.
You see this page on Linux when you have indicated on the previous page that you want the SAS Deployment Wizard to run the setuid.sh script via sudo. If you have any concerns with the deployment wizard running as root or you do not know the sudo information for the machine that you are installing on, you should go back and change your earlier selection.
- In **Confirm Password**, re-enter the password.



SAS Internal Account: Unrestricted Administrator

- Enter and confirm the password that will be used for the internal sasadm@saspw account. Click **Next**.

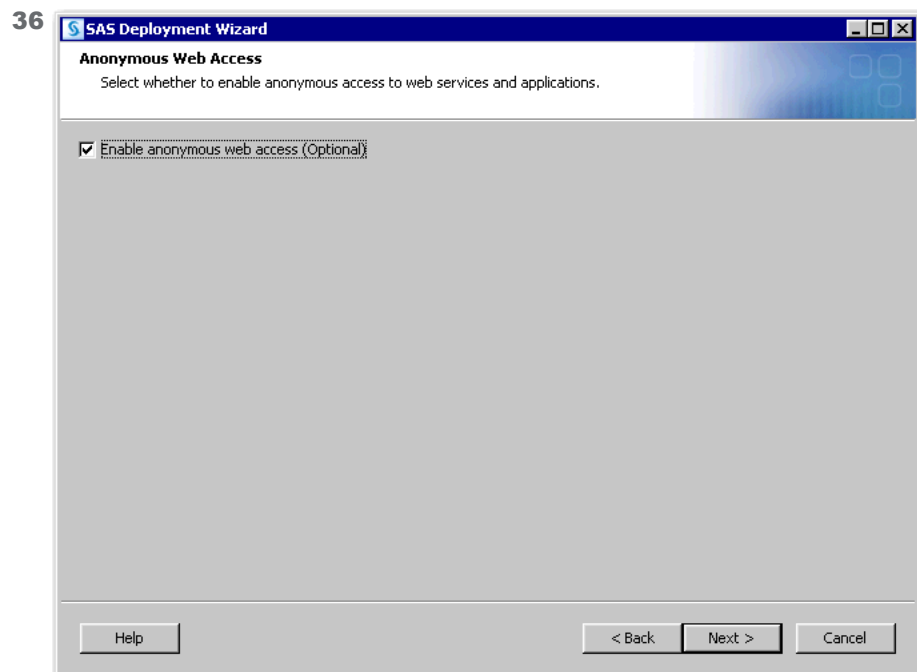
Note: Remember this password as you will need it in the future.



SAS Internal Account: Trusted User

- Enter and confirm the password that will be used for the internal sastrust@saspw account. Click **Next**.

Note: Remember this password as you will need it in the future.



Anonymous Web Access

- Make sure that **Enable anonymous web access** is selected. Click **Next**.

37

The screenshot shows a dialog box titled "SAS Deployment Wizard" with the subtitle "SAS Internal Account: Anonymous Web User". The main instruction is "Specify the metadata password for the anonymous web user identity." Below this, a paragraph states: "The anonymous web user is a SAS internal account stored in metadata." The form contains several input fields: "Display Name:" with the value "SAS Anonymous Web User"; "Name:" with the value "webanon"; "Internal User ID:" with the value "webanon@saspw"; "New Internal Password:" with "*****"; and "Confirm New Internal Password:" with "*****". At the bottom, there are buttons for "Help", "< Back", "Next >", and "Cancel".

SAS Internal Account: Anonymous Web User

- Enter and confirm the password that will be used for the internal webanon@saspw account. Click **Next**.

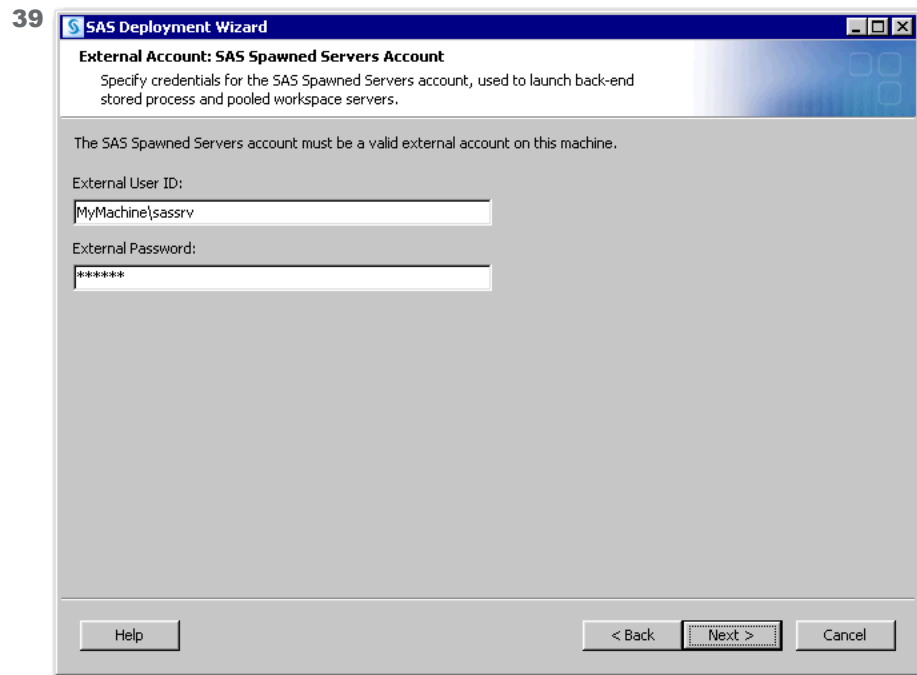
Note: Remember this password as you will need it in the future.

38

The screenshot shows a dialog box titled "SAS Deployment Wizard" with the subtitle "SAS Visual Analytics: Allow Guest Access". The main instruction is "Specify whether guest access is allowed." Below this, a paragraph states: "Allow guest access to SAS Visual Analytics. If this option is selected, users can access participating Visual Analytics applications at a guest URL. Users are transparently authenticated using a generic, anonymous account." There is a checkbox labeled "Guest Access Permitted" which is currently unchecked. At the bottom, there are buttons for "Help", "< Back", "Next >", and "Cancel".

SAS Visual Analytics: Allow Guest Access

- Do not change any of the default values displayed on this page. Click **Next**.

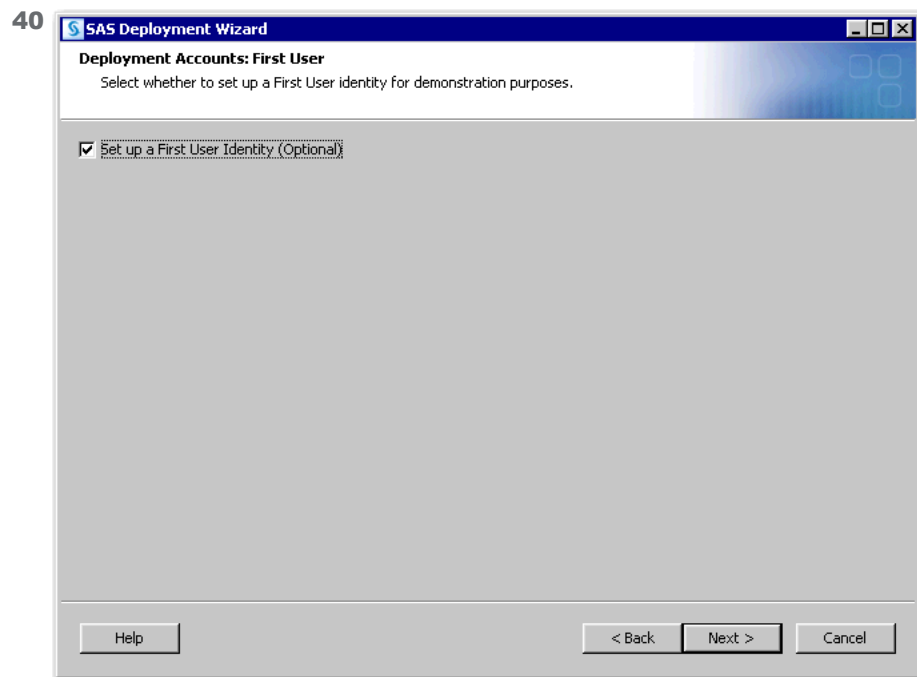


External Account: SAS Spawnd Servers Account

- In the relevant fields, enter the user ID and password for the SAS Spawnd Servers account.

Note: Remember this password as you will need it in the future.

Prefix the user ID with either the domain or machine name (for example, *domain\user-ID* or *machine-name\user-ID*). Click **Next**.

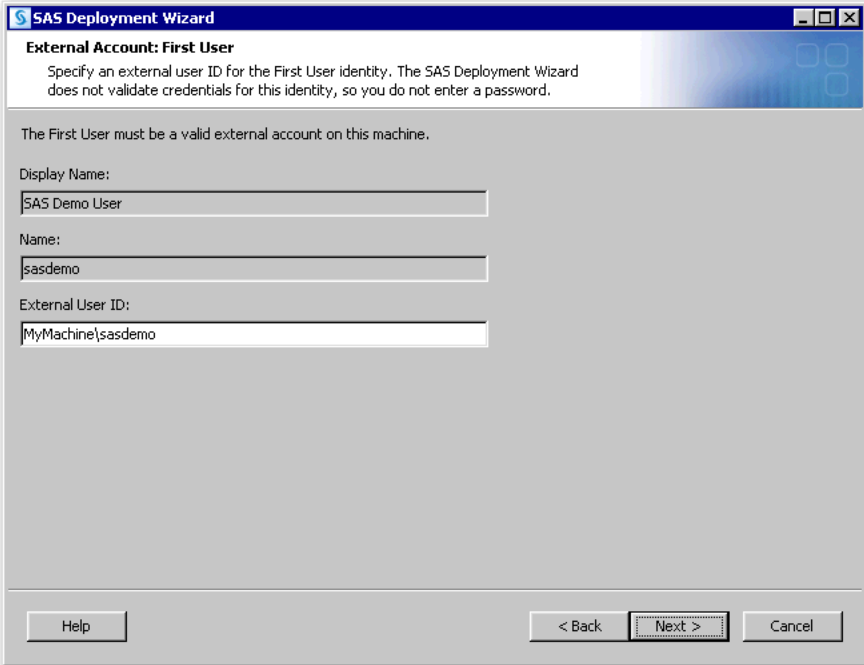


Deployment Accounts: First User

- Select **Set up a First User Identity**. Click **Next**.

The SAS First User account, which is often referred to as `sasdemo`, is used for demonstration purposes. Although it is not required, the SAS First User account can be used to validate your deployment.

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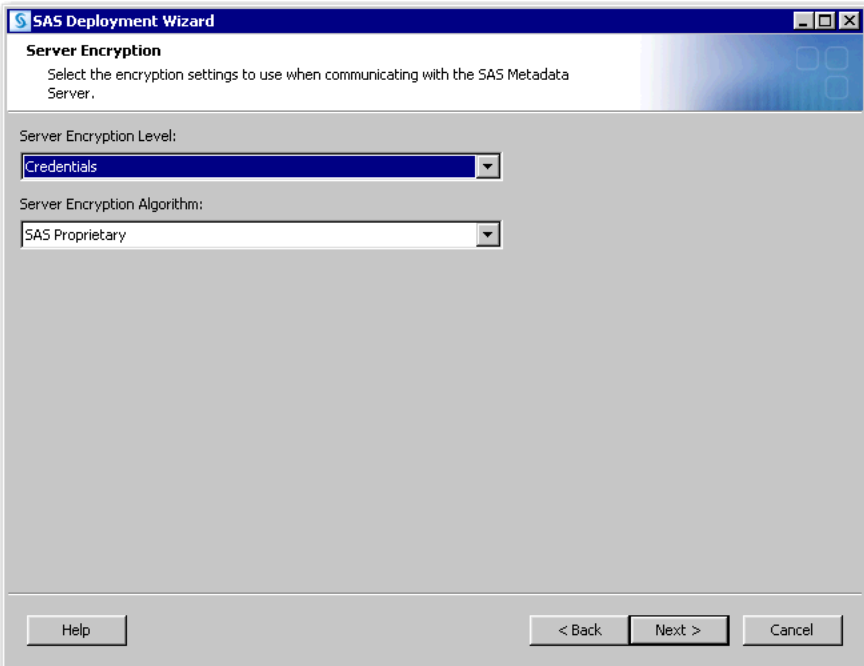


The screenshot shows the 'External Account: First User' step of the SAS Deployment Wizard. The window title is 'SAS Deployment Wizard'. The main heading is 'External Account: First User'. Below the heading, there is a note: 'Specify an external user ID for the First User identity. The SAS Deployment Wizard does not validate credentials for this identity, so you do not enter a password.' A sub-note states: 'The First User must be a valid external account on this machine.' There are three text input fields: 'Display Name:' with the value 'SAS Demo User', 'Name:' with the value 'sasdemo', and 'External User ID:' with the value 'MyMachine\sasdemo'. At the bottom, there are three buttons: 'Help', '< Back', and 'Next >', and a 'Cancel' button.

External Account: First User

- In **External User ID**, enter the user ID for the SAS First User account. Prefix the user ID with either the domain or machine name (for example, `domain\user-ID` or `machine-name\user-ID`). Click **Next**.

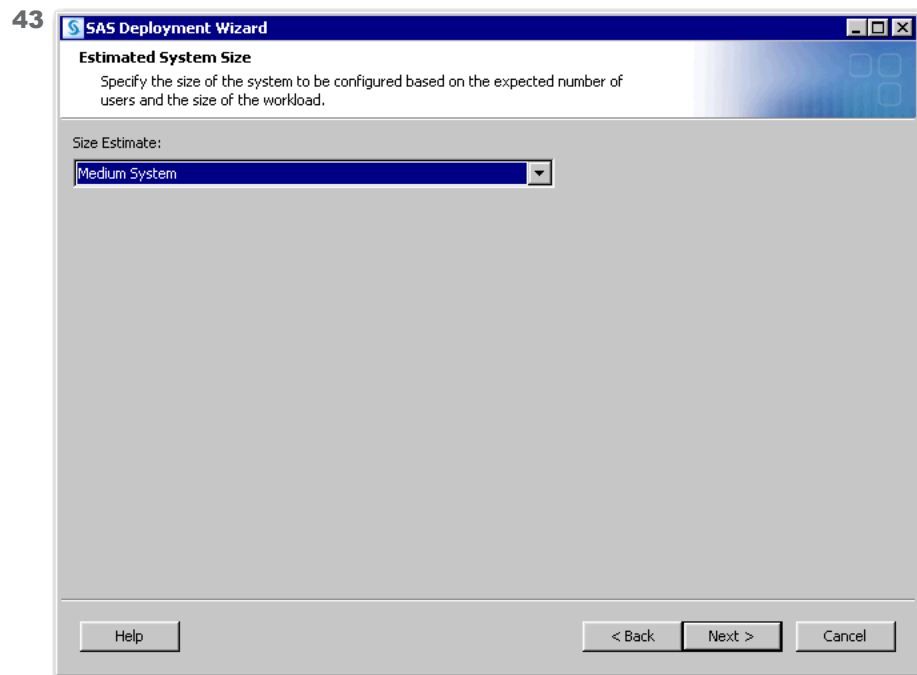
42



The screenshot shows the 'Server Encryption' step of the SAS Deployment Wizard. The window title is 'SAS Deployment Wizard'. The main heading is 'Server Encryption'. Below the heading, there is a note: 'Select the encryption settings to use when communicating with the SAS Metadata Server.' There are two dropdown menus: 'Server Encryption Level:' with the value 'Credentials' and 'Server Encryption Algorithm:' with the value 'SAS Proprietary'. At the bottom, there are three buttons: 'Help', '< Back', and 'Next >', and a 'Cancel' button.

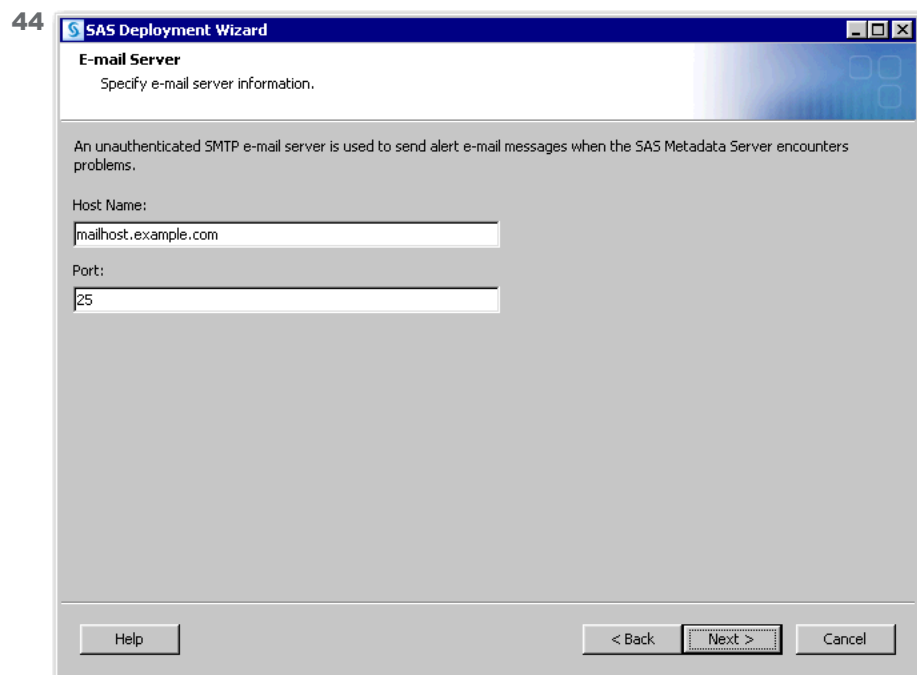
Server Encryption

- Do not change the default information that is displayed on this page. Click **Next**.



Estimated System Size

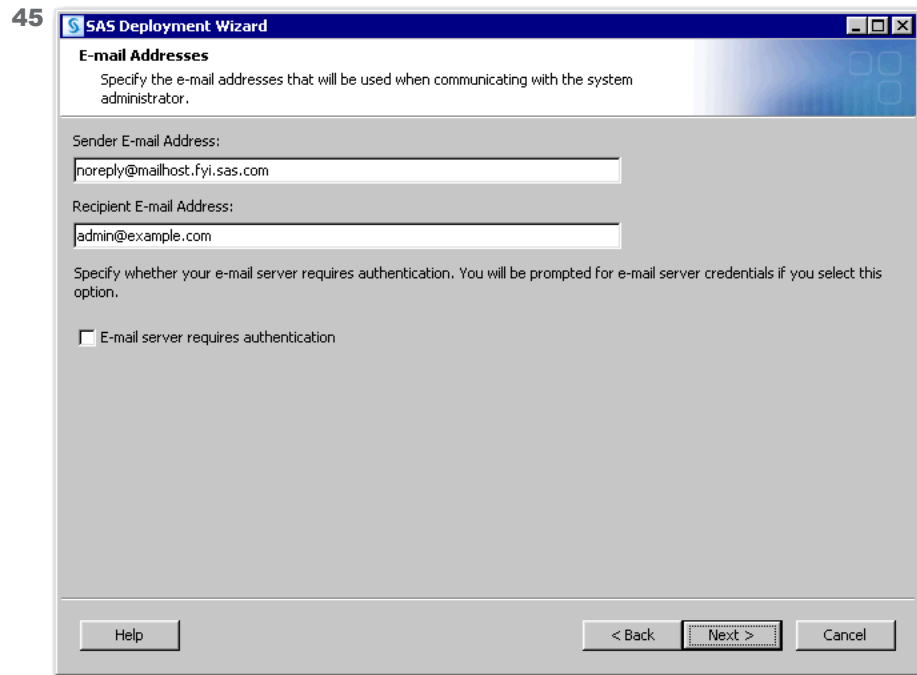
- Do not change the default information that is displayed on this page. Click **Next**.



E-mail Server

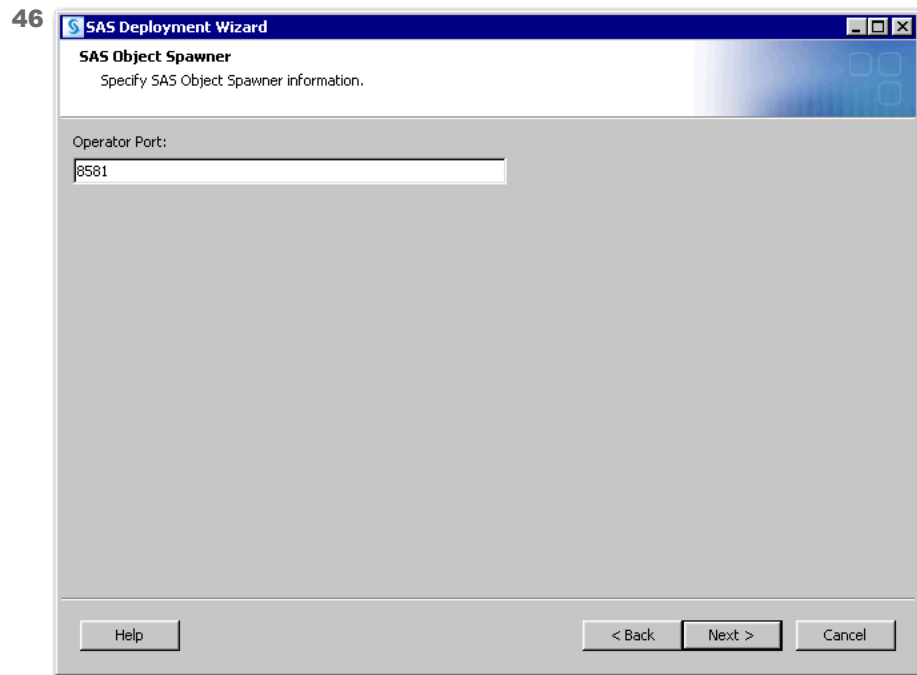
- In **Host Name**, enter the host name for an SMTP e-mail server at your site. SAS uses this server to send e-mail alerts for system-related issues to an administrator. Click **Next**.

TIP If you do not know the name of the SMTP e-mail server at your site, check with your system administrator.



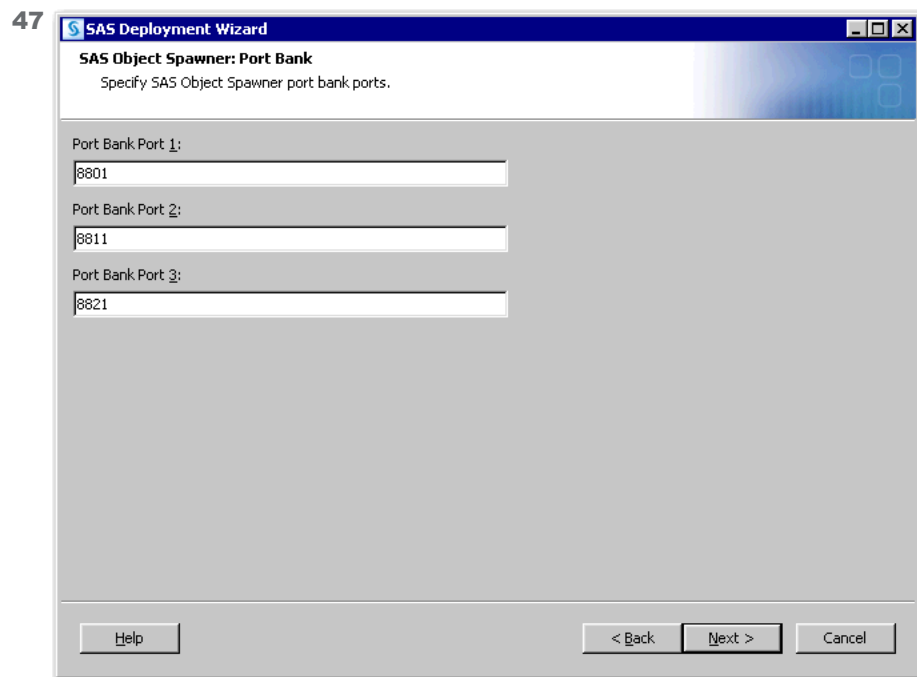
E-mail Addresses

- In **Recipient E-mail Address**, enter a valid e-mail address that the SAS can use to send e-mail alerts for system-related issues. Click **Next**.



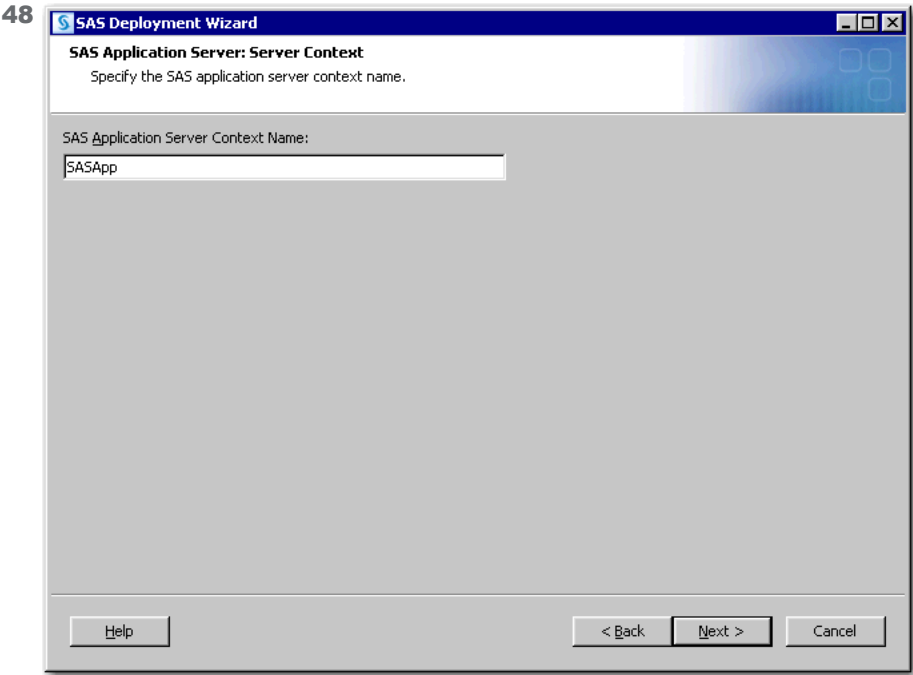
SAS Object Spawner

- Do not change the default information that is displayed on this page. Click **Next**.



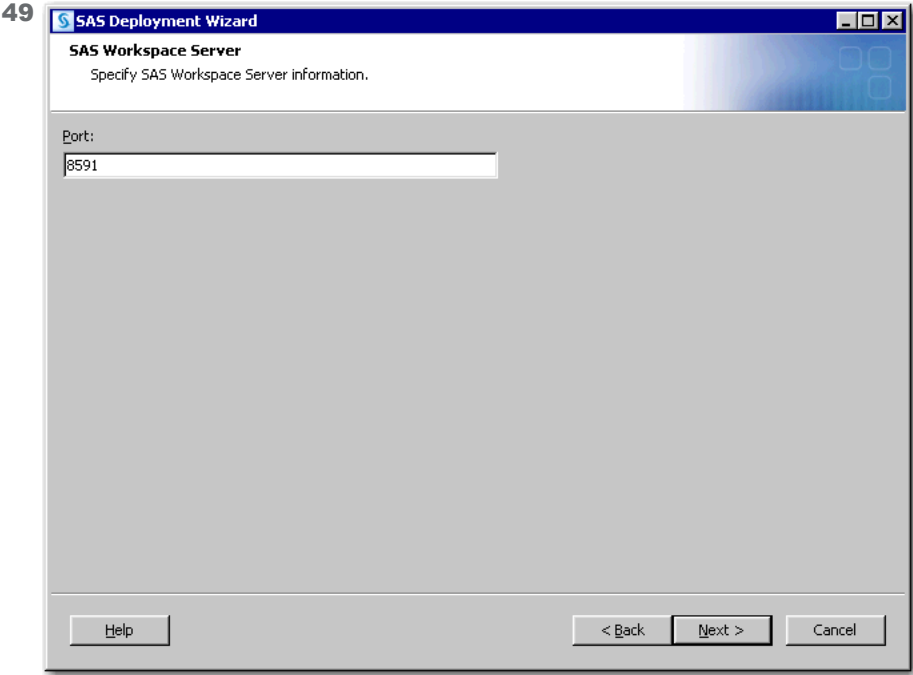
SAS Object Spawner: Port Bank

- Do not change the default information that is displayed on this page. Click **Next**.



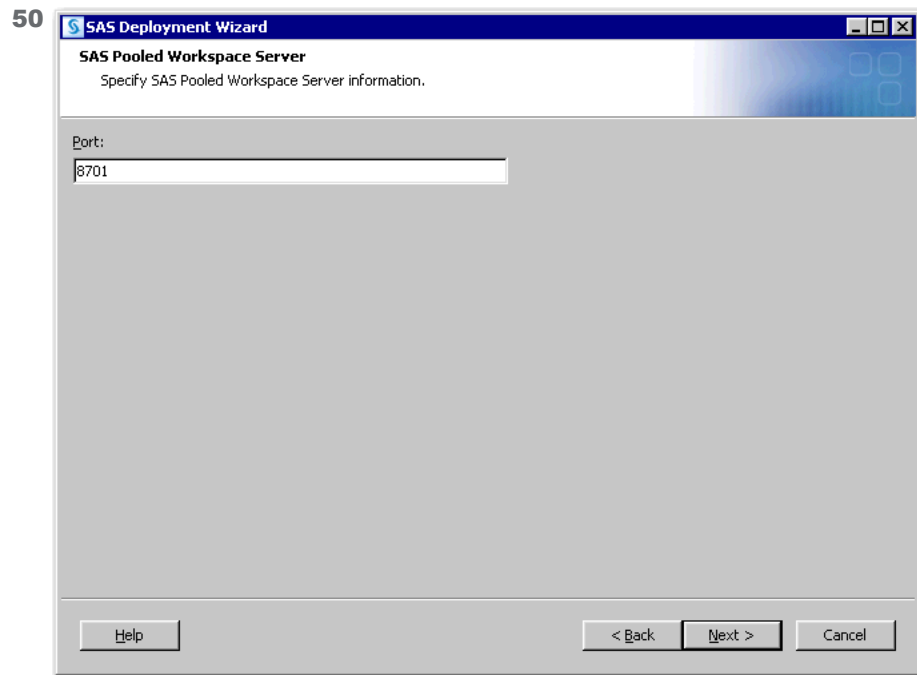
SAS Application Server: Server Context

- Do not change the default information that is displayed on this page. Click **Next**.



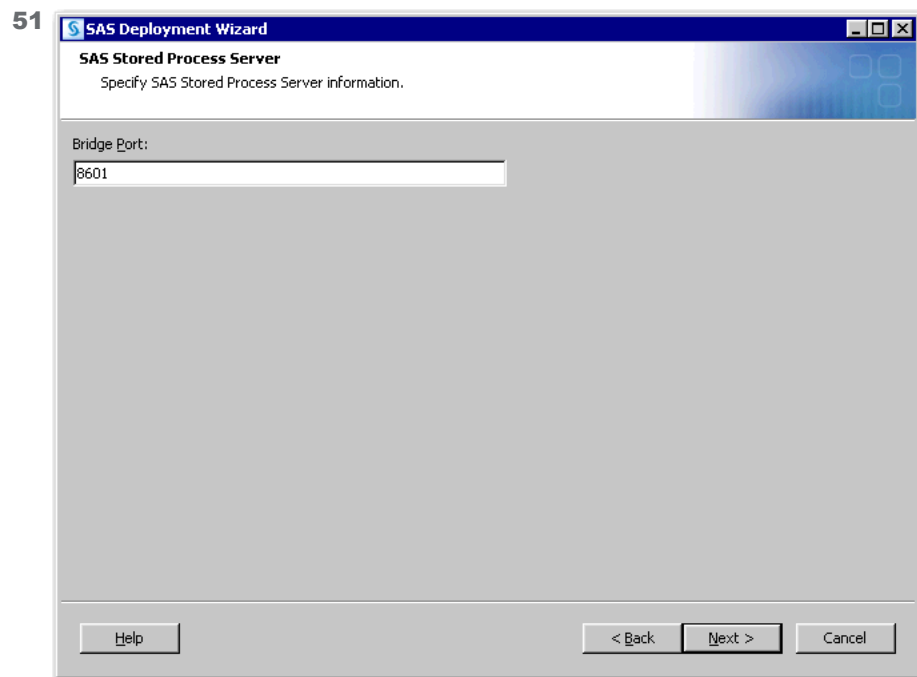
SAS Workspace Server

- Do not change the default information that is displayed on this page. Click **Next**.



SAS Pooled Workspace Server

- Do not change the default information that is displayed on this page. Click **Next**.



SAS Stored Process Server

- Do not change the default information that is displayed on this page. Click **Next**.

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SAS Deployment Wizard

Stored Process Server: Multibridge Connections
Specify multibridge connection information for the SAS Stored Process Server.

Multibridge Port 1:
8611

Multibridge Port 2:
8621

Multibridge Port 3:
8631

Help < Back Next > Cancel

SAS Stored Process Server: Multibridge Connections

- Do not change the default information that is displayed on this page. Click **Next**.

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SAS Deployment Wizard

SAS Web Infrastructure Platform Data Server
Specify information for SAS Web Infrastructure Platform Data Server.

Host Name:
MyMachine.example.com

Port:
9432

Data Server Administrator:
dbmsowner

Data Server Administrator Password:

Confirm Password:

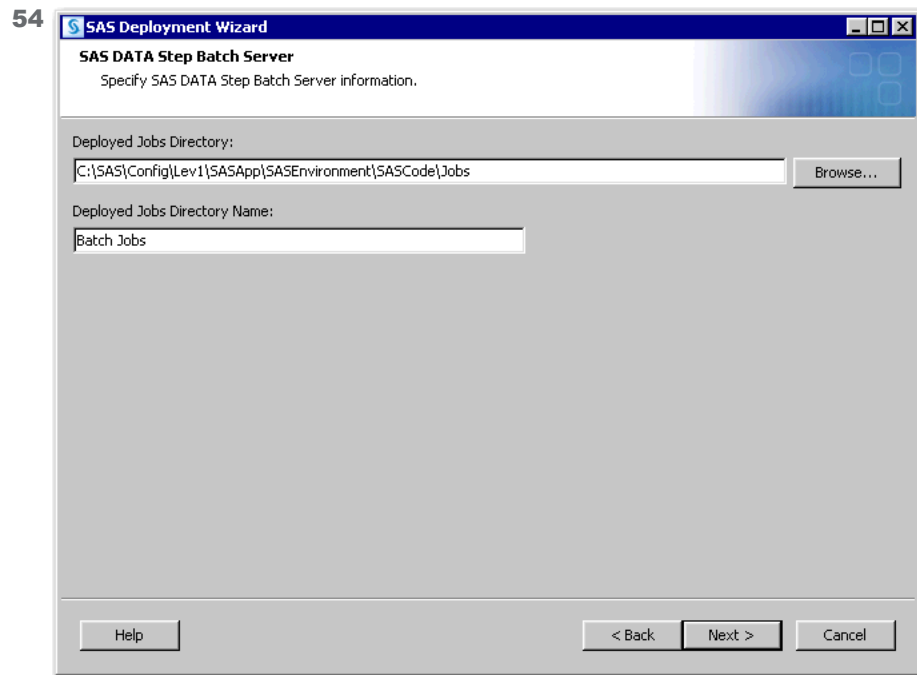
Help < Back Next > Cancel

SAS Web Infrastructure Platform Data Server

- Enter and confirm a password that SAS will create for the dbmsowner user ID. Click **Next**.

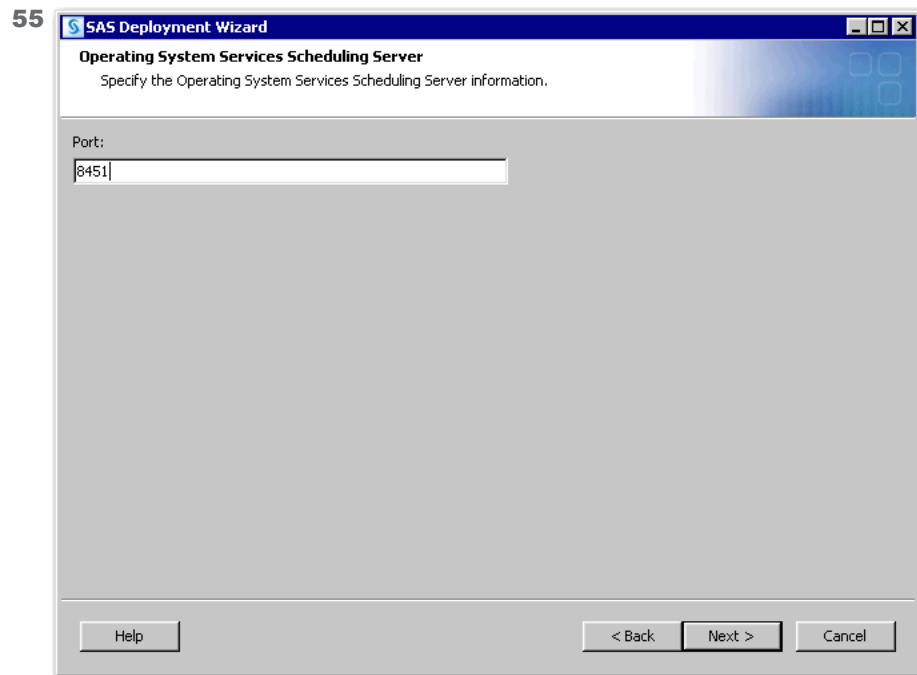
Note: Remember this password as you will need it in the future.

- Do not change the default information that is displayed on this page.



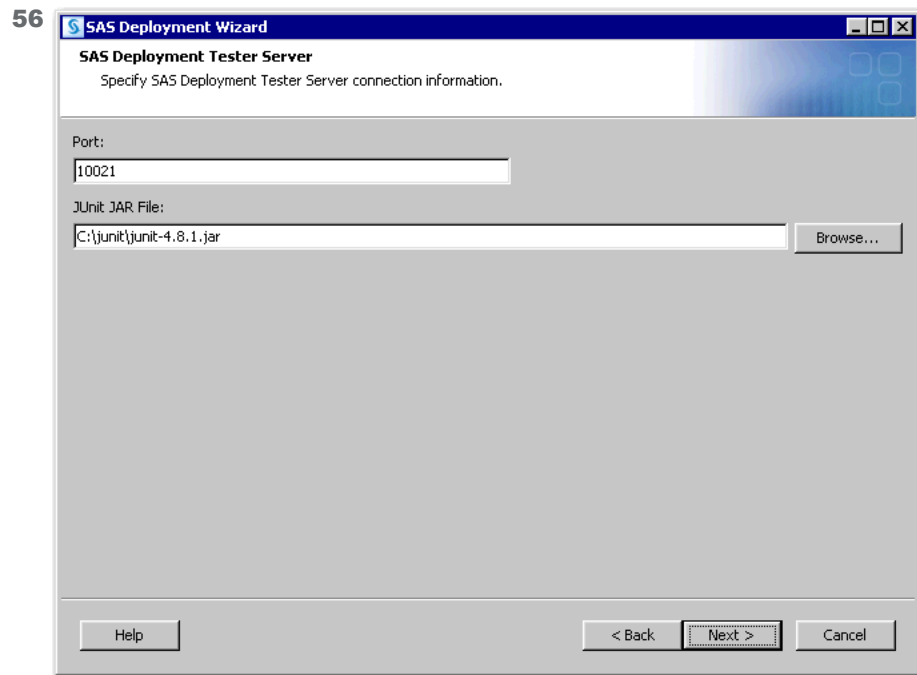
SAS DATA Step Batch Server

- Do not change the default information that is displayed on this page. Click **Next**.



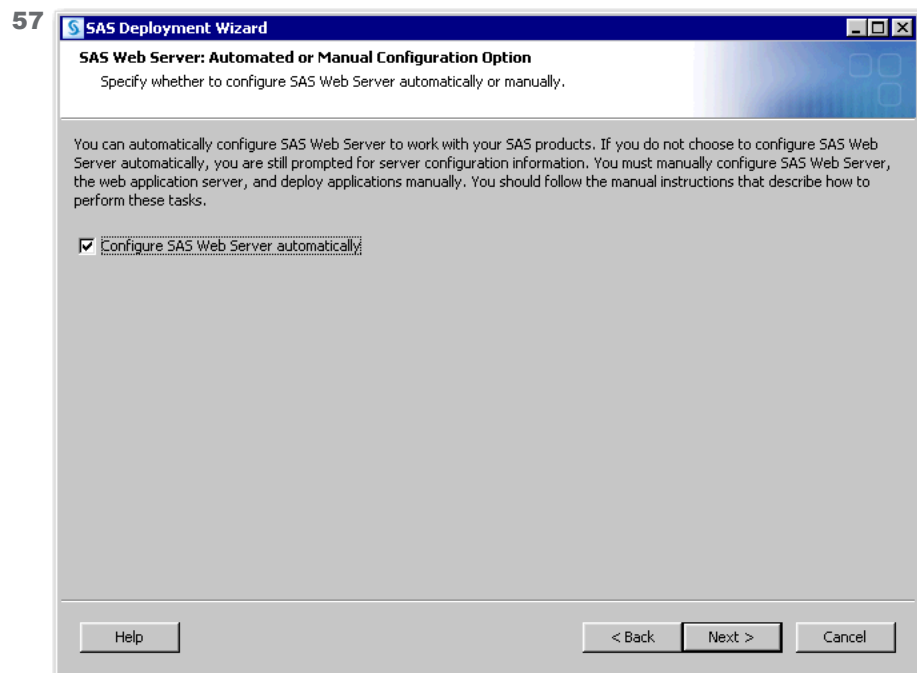
Operating System Services Scheduling Server

- Do not change the default information that is displayed on this page. Click **Next**.



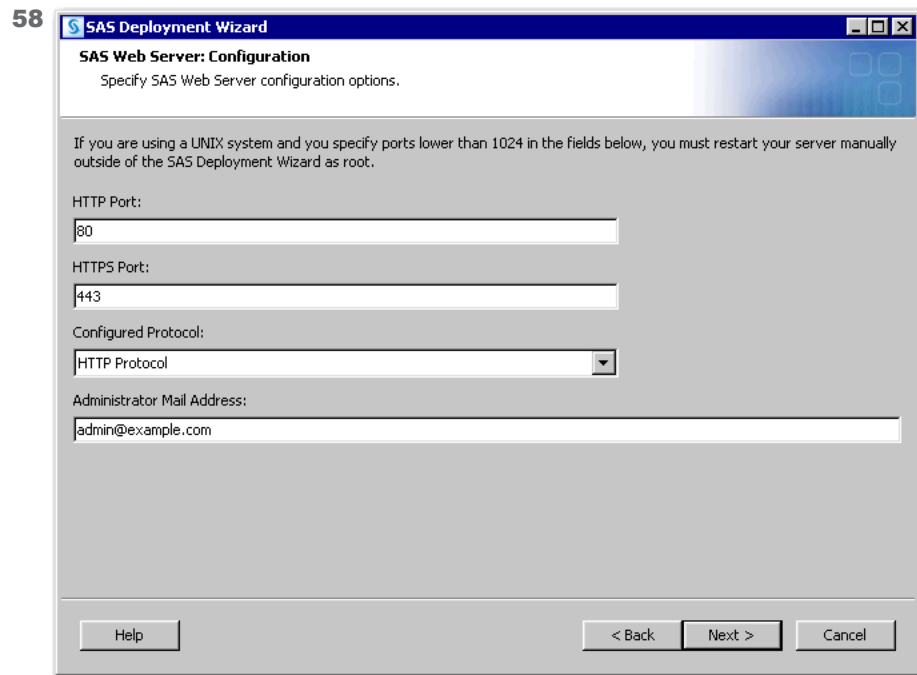
SAS Deployment Tester Server

- Do not change the default port information that is displayed on this page.
- In **JUnit JAR File**, enter the JAR file path (for example, `c:\junit\junit-4.8.1.jar`) or click **Browse** to select it. Click **Next**.



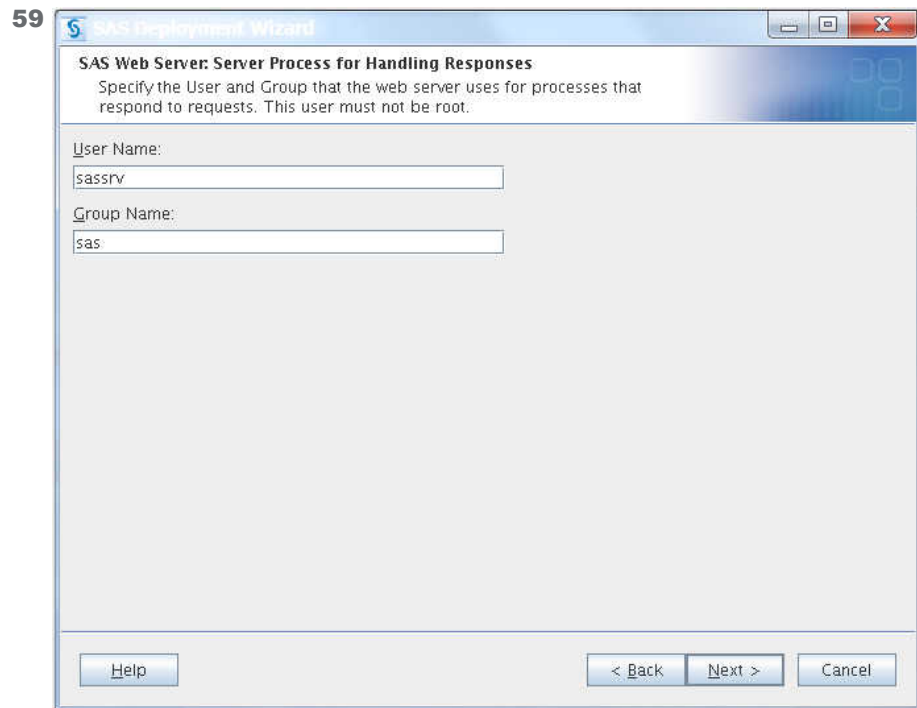
SAS Web Server: Automated or Manual Configuration Option

- Do not change the default information that is displayed on this page. Click **Next**.



SAS Web Server: Configuration

- Do not change the default information that is displayed on this page. Click **Next**.



SAS Web Server: Server Process for Handling Responses (Linux only)

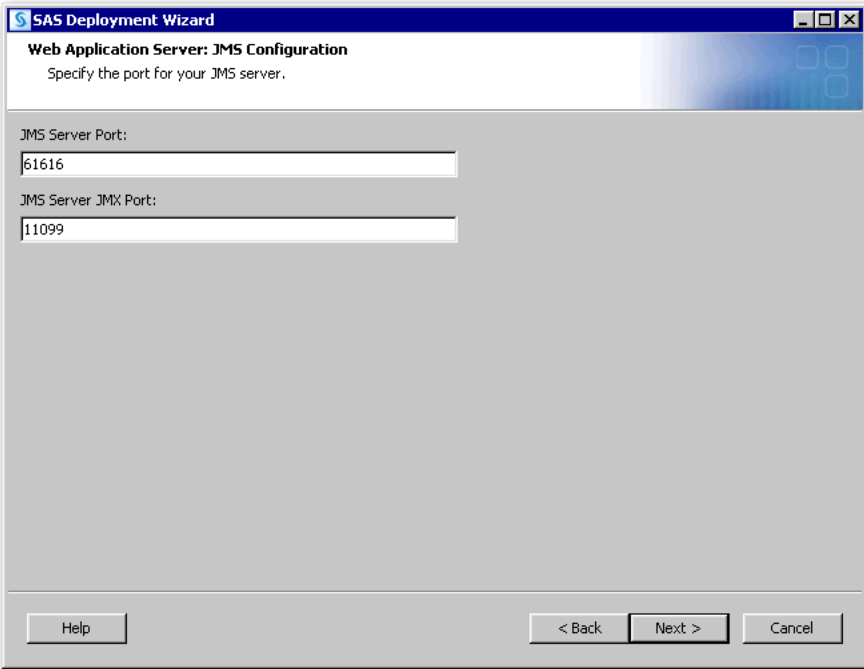
- In **User Name** enter the host system user name for the HTTPD response processes. Do not use the numeric User ID.

On Linux, when the HTTPD listener process is run as root, it forks a set of child processes that will handle the requests and respond to the client.

For security reasons, these child processes must run with a more limited user and group ID.

- In **Group Name**, enter the host system group name for the HTTPD response processes. Do not use the numeric Group ID.

60



SAS Deployment Wizard

Web Application Server: JMS Configuration
Specify the port for your JMS server.

JMS Server Port:
61616

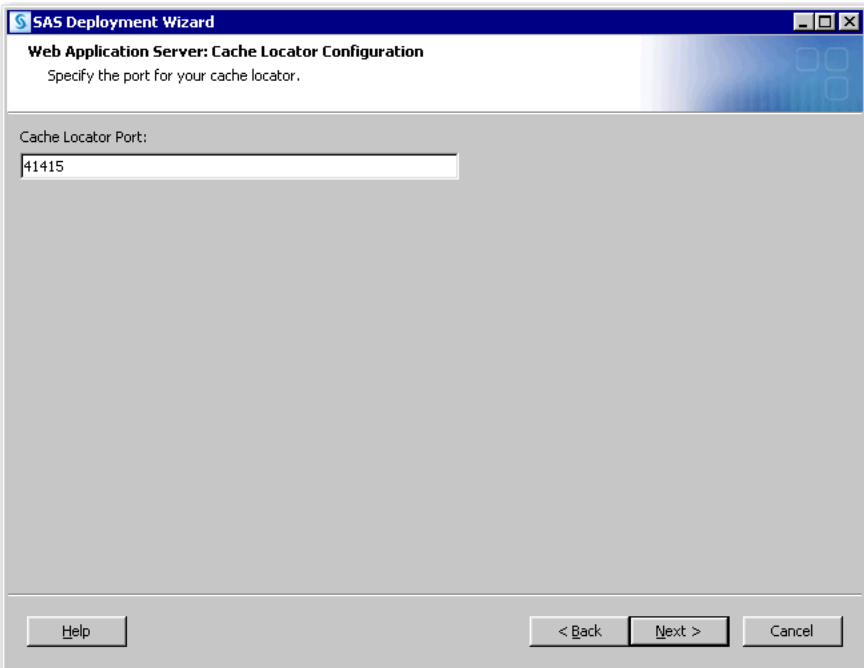
JMS Server JMX Port:
11099

Help < Back Next > Cancel

SAS Web Application Server: JMS Configuration

- Do not change the default information that is displayed on this page. Click **Next**.

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SAS Deployment Wizard

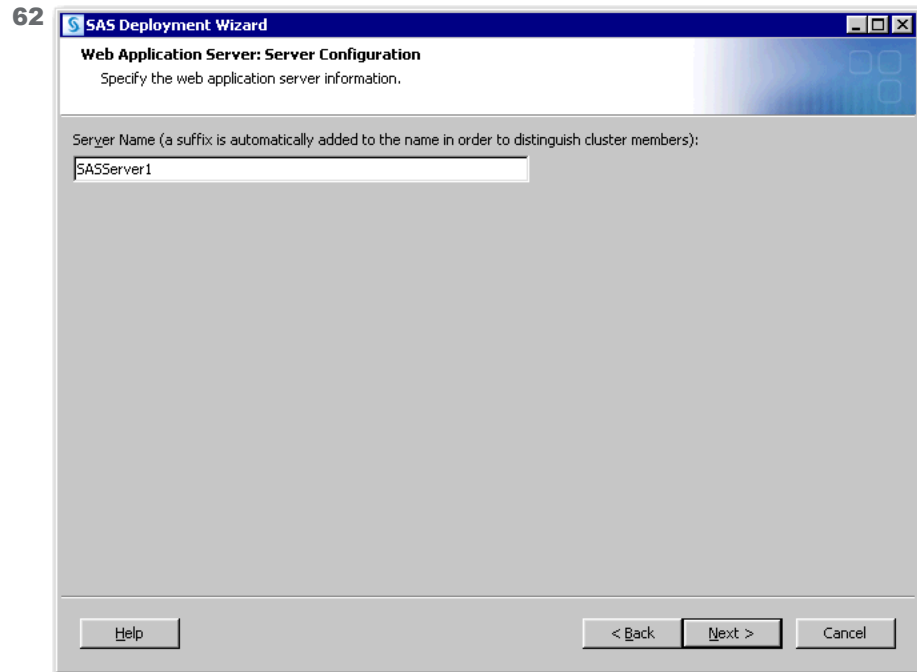
Web Application Server: Cache Locator Configuration
Specify the port for your cache locator.

Cache Locator Port:
41415

Help < Back Next > Cancel

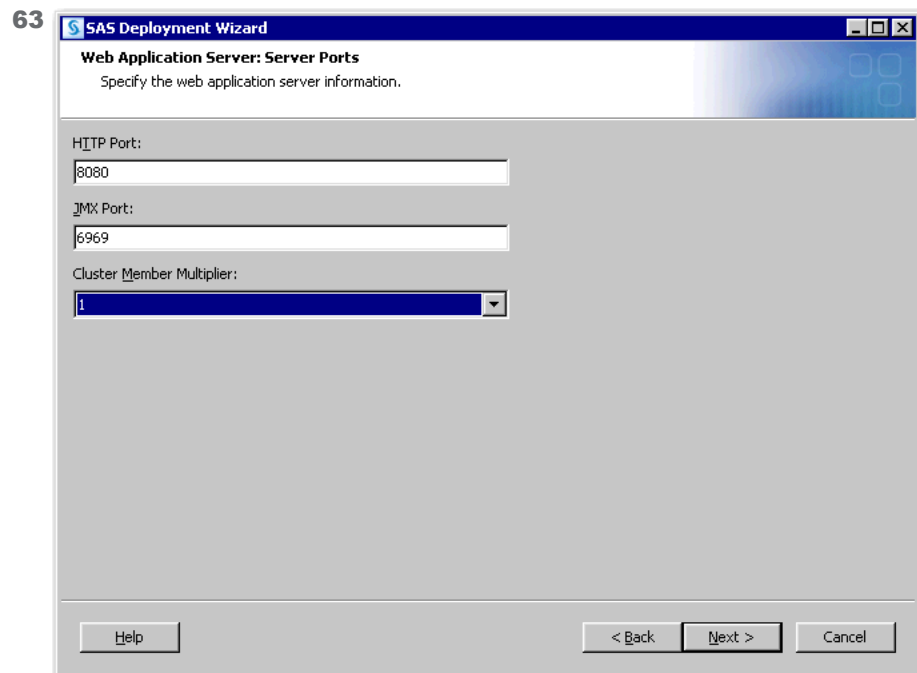
SAS Web Application Server: Cache Locator Configuration

- Do not change the default information that is displayed on this page. Click **Next**.



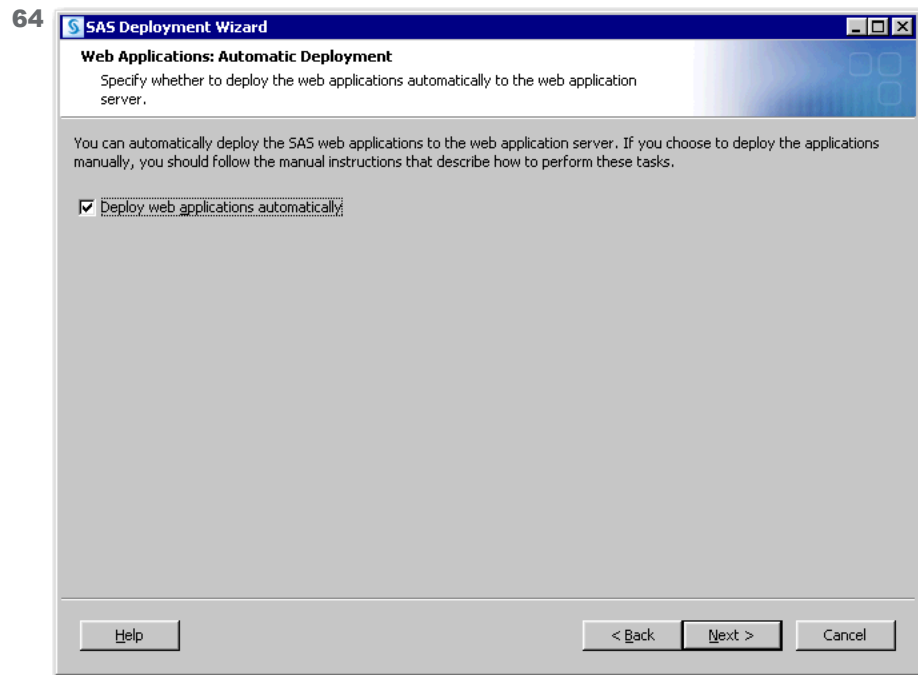
SAS Web Application Server: Server Configuration

- Do not change the default information that is displayed on this page. Click **Next**.



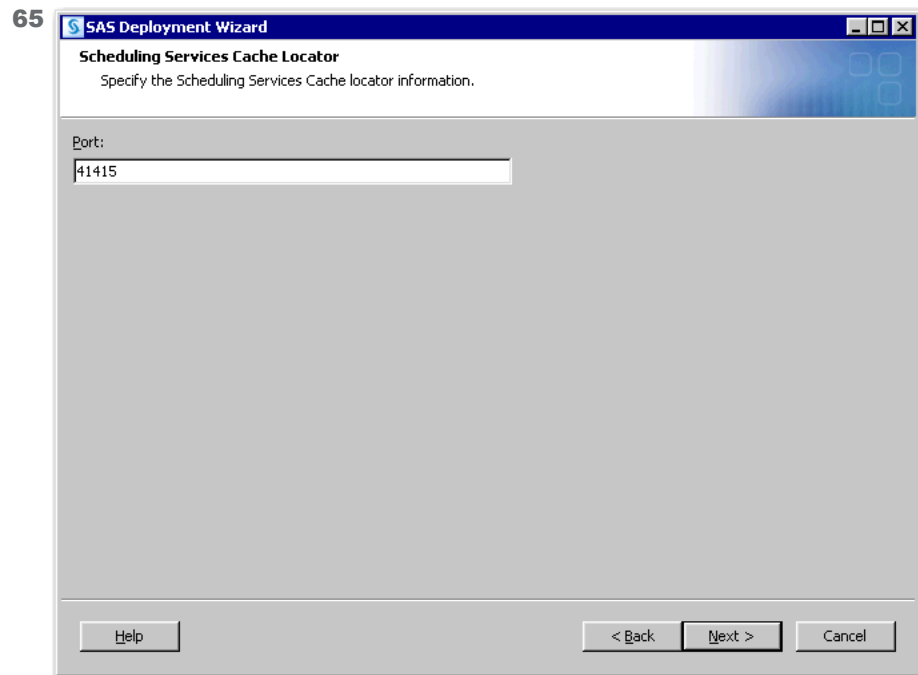
SAS Web Application Server: Server Ports

- Do not change the default information that is displayed on this page. Click **Next**.



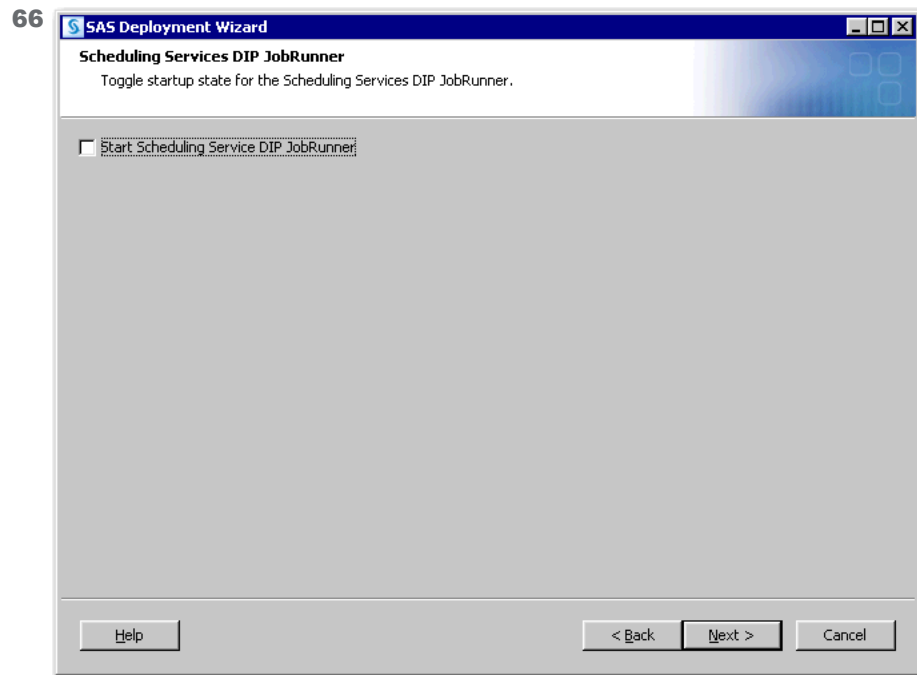
Web Applications: Automatic Deployment

- Do not change the default information that is displayed on this page. Click **Next**.



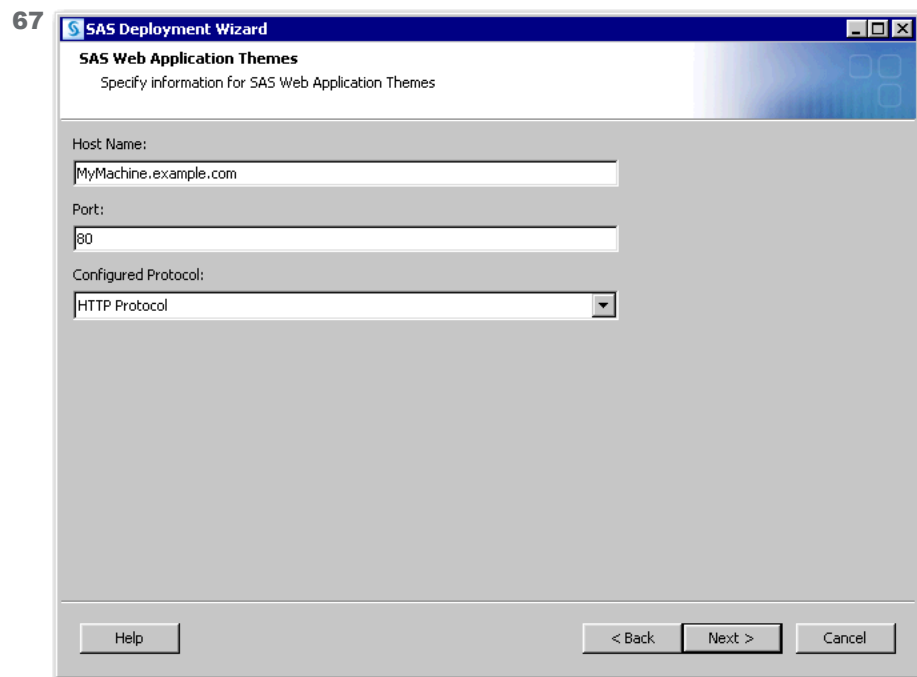
Scheduling Services Cache Locator

- Do not change the default information that is displayed on this page. Click **Next**.



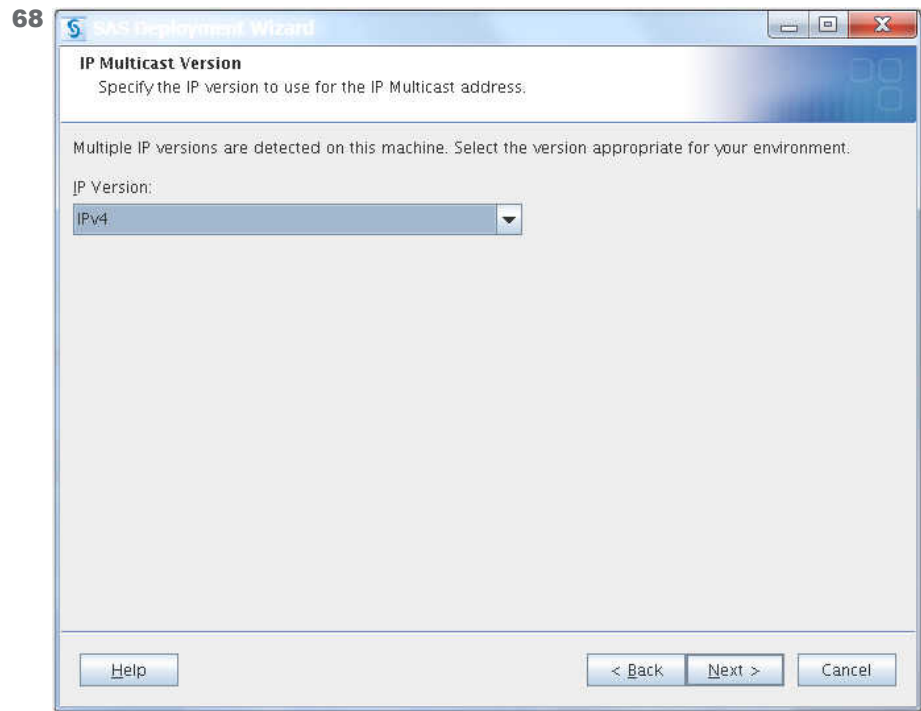
Scheduling Services DIP JobRunner

- Do not change the default information that is displayed on this page. Click **Next**.



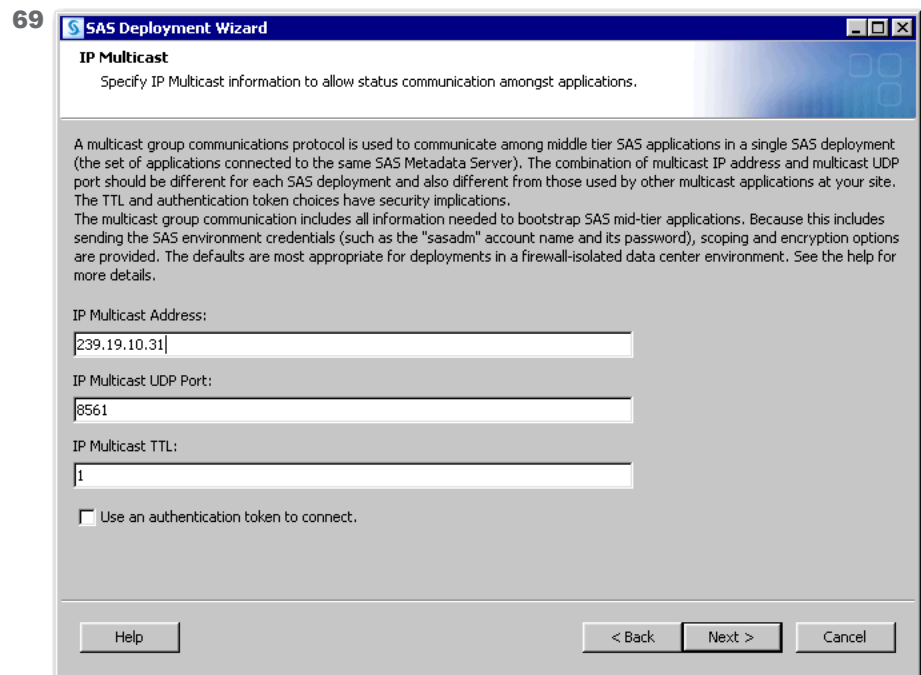
SAS Web Application Themes

- Do not change the default information that is displayed on this page. Click **Next**.



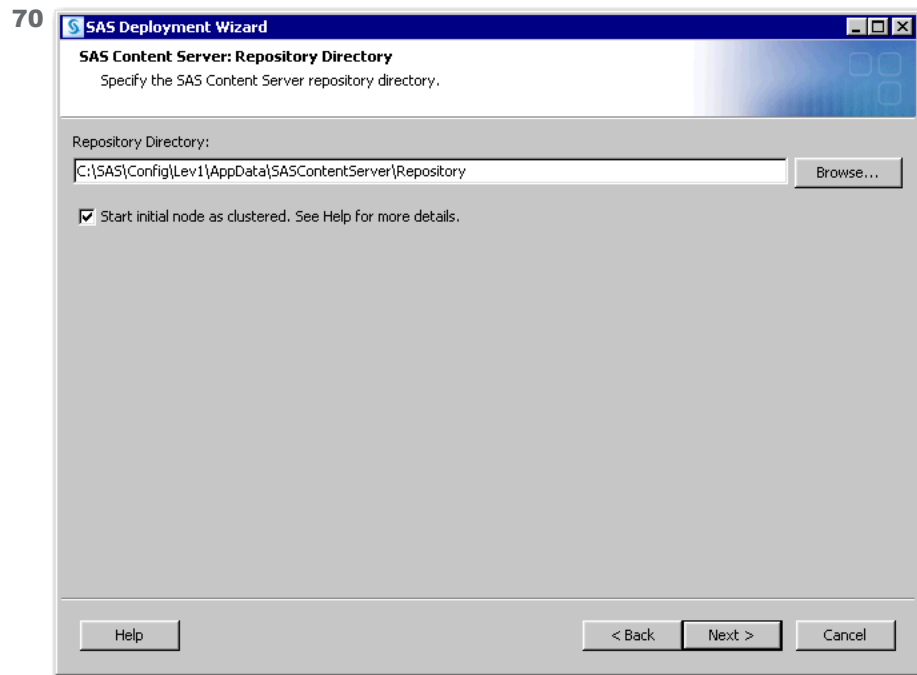
IP Multicast Version (Linux only)

- Do not change the default information that is displayed on this page. Click **Next**.



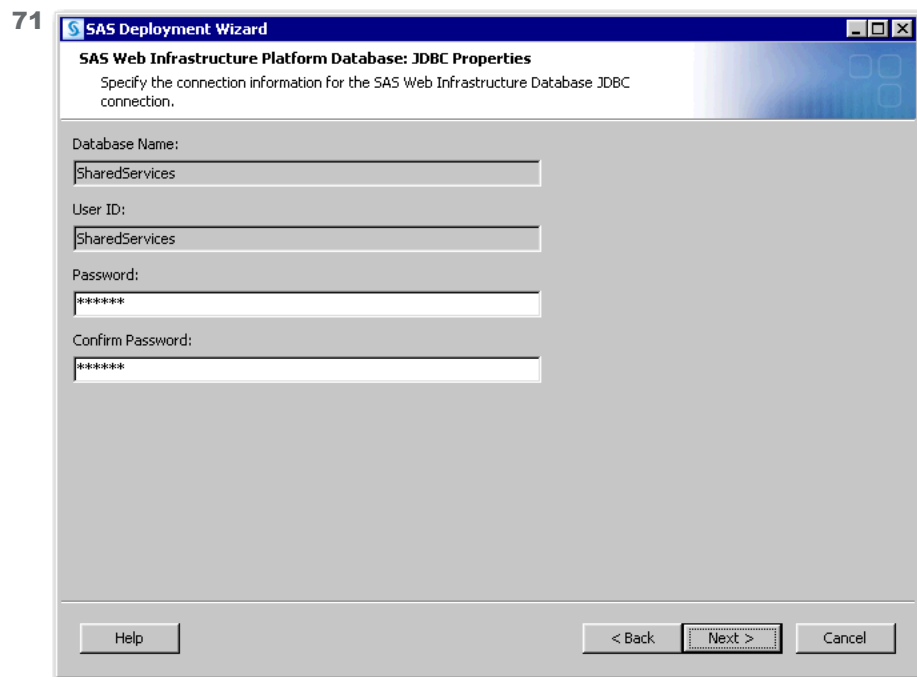
IP Multicast

- Do not change the default information that is displayed on this page. Click **Next**.



SAS Content Server: Repository Directory

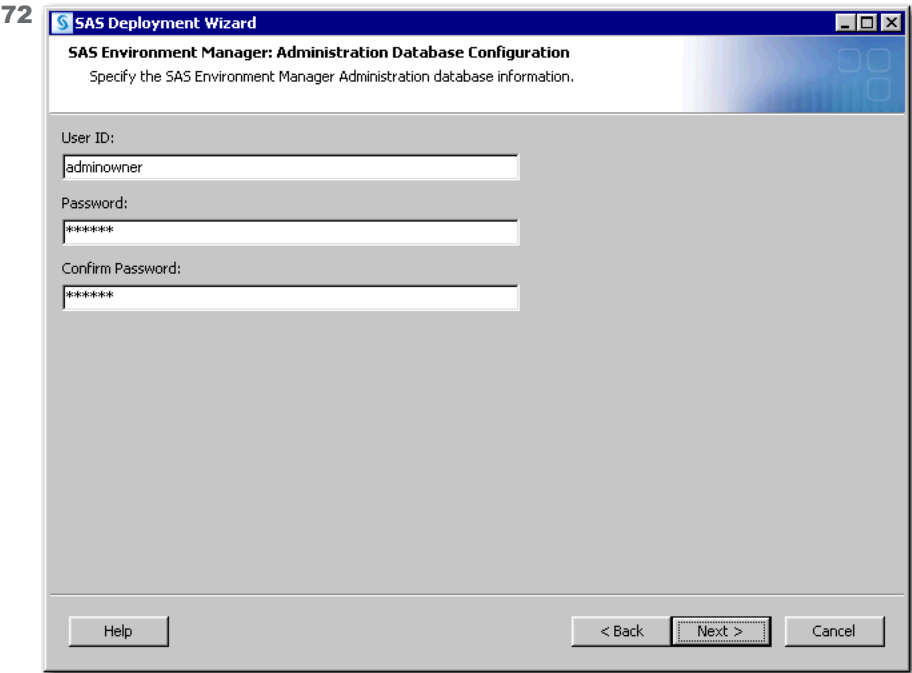
- Do not change the default information that is displayed on this page. Click **Next**.



SAS Web Infrastructure Platform Database: JDBC Properties

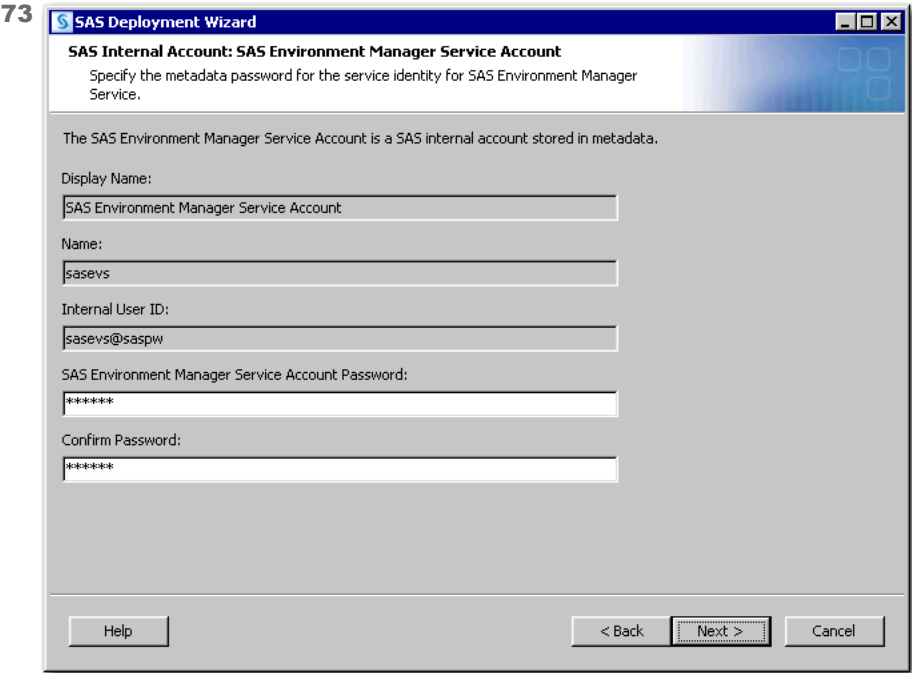
- Enter and confirm a password that SAS will create for the SharedServices user ID. Click **Next**.

Note: Remember this password as you will need it in the future.



SAS Environment Manager: Administration Database Configuration

- Enter and confirm a password that SAS will create for the adminowner user ID. Click **Next**.
Note: Remember this password as you will need it in the future.
- Do not change the default user ID information that is displayed on this page.



SAS Internal Account: SAS Environment Manager Service Account

- Enter and confirm a password that SAS will create for the SAS Environment Manager service account (sasevs@saspw). Click **Next**.

Note: Remember this password as you will need it in the future.

The password must contain at least six characters. Make sure that you supply the same password that was specified in any previous SAS Environment Manager configuration prompts.

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SAS Deployment Wizard
SAS Environment Manager: Configuration
 Specify the server information to administer the SAS Environment Manager.

HTTP Port:

HTTPS Secure Port:

Administrator E-mail Address:

Help < Back Next > Cancel

SAS Environment Manager: Configuration

- Do not change the default information that is displayed on this page. Click **Next**.

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SAS Deployment Wizard
SAS Environment Manager: Database Configuration
 Specify the SAS Environment Manager database information.

Database Name:

Database User:

Database User Password:

Confirm Password:

Database Encryption Passphrase:

Confirm Database Encryption Passphrase:

Help < Back Next > Cancel

SAS Environment Manager: Database Configuration

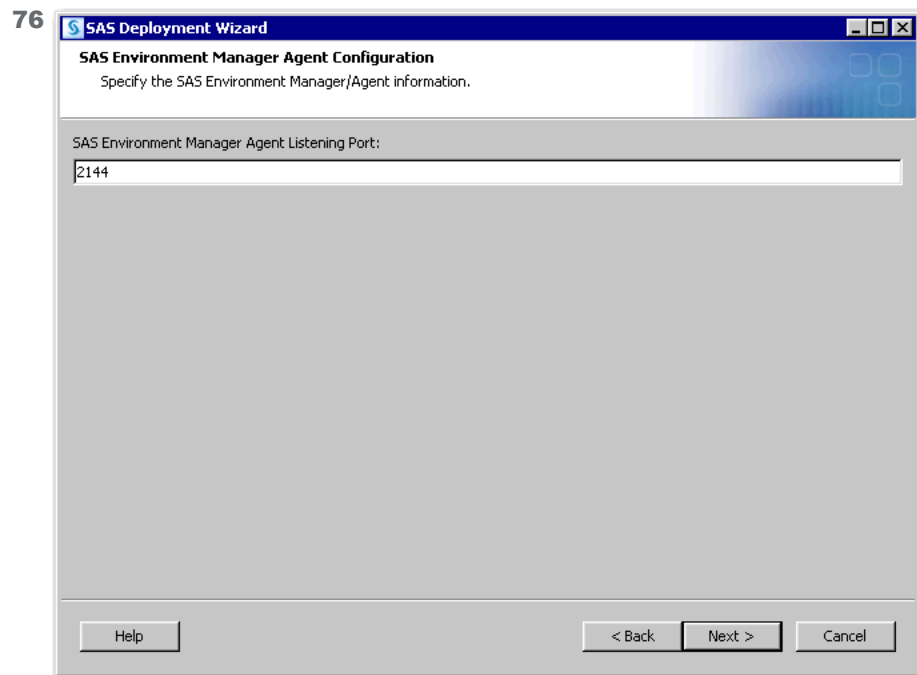
- Enter and confirm a password and an encryption passphrase that the deployment wizard will use when creating credentials for the EVManager user ID. Click **Next**.

Note: Remember this password and passphrase as you will need them in the future.

The password must contain at least six characters.

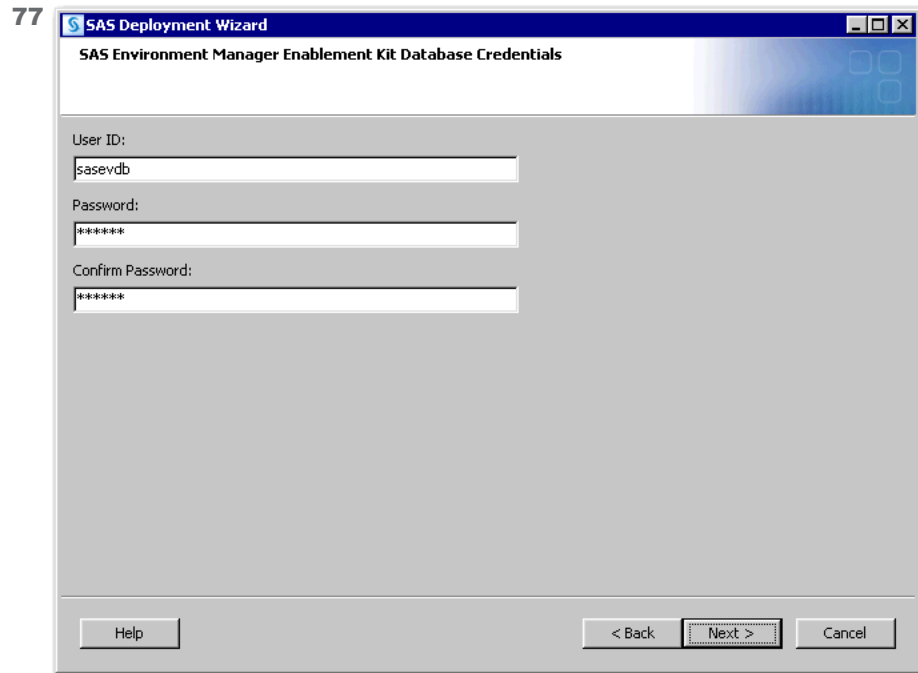
The passphrase must be at least eight characters long and can contain letters and numbers only.

- Do not change the user ID information that is displayed on this page.



SAS Environment Manager Agent Configuration

- Do not change the default information that is displayed on this page. Click **Next**.

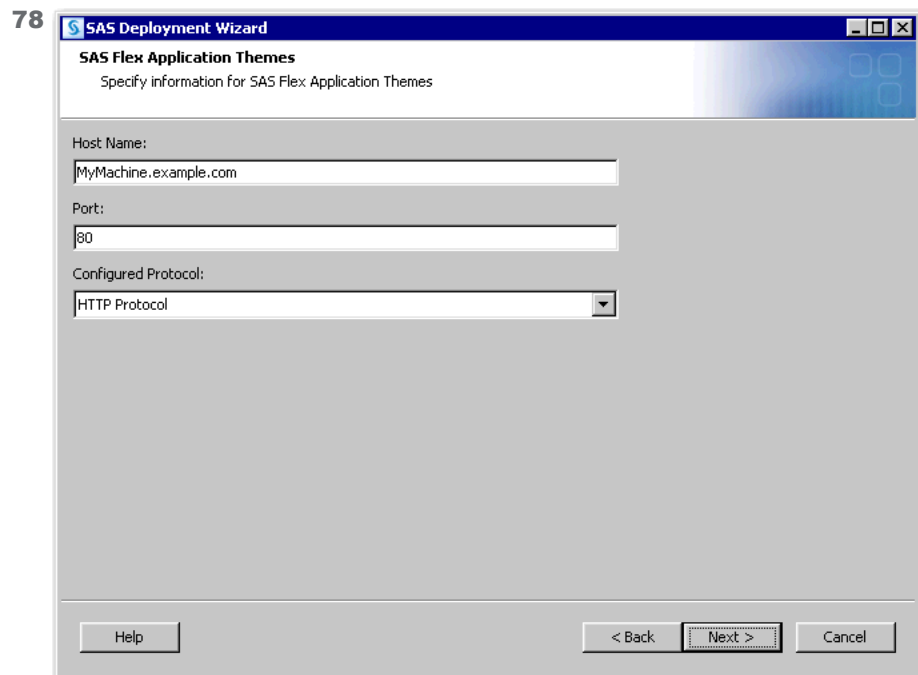


SAS Environment Manager Enablement Kit Database Credentials

- Enter and confirm a password that SAS will create for the default SAS Environment Manager Enablement Kit user ID. Click **Next**.

Note: Remember this password as you will need it in the future.

- Do not change the user ID information that is displayed on this page.



SAS Flex Application Themes

- Do not change the default information that is displayed on this page. Click **Next**.

79 **SAS Deployment Wizard**

SAS Visual Analytics High-Performance Configuration Information
 SAS Visual Analytics High-Performance Configuration requires information about the SAS High-Performance Analytics environment. Specify the requested information.

SAS High-Performance Analytics Environment Host:

SAS High-Performance Analytics Environment Port:

Signature files location:

Help < Back Next > Cancel

SAS Visual Analytics High-Performance Configuration Information

- Do not change any of the default values displayed on this page. Click **Next**.

80 **SAS Deployment Wizard**

SAS Visual Analytics Public Data Provider
 SAS Visual Analytics library definition for public non-distributed data provider.

Data Reload Library Name:

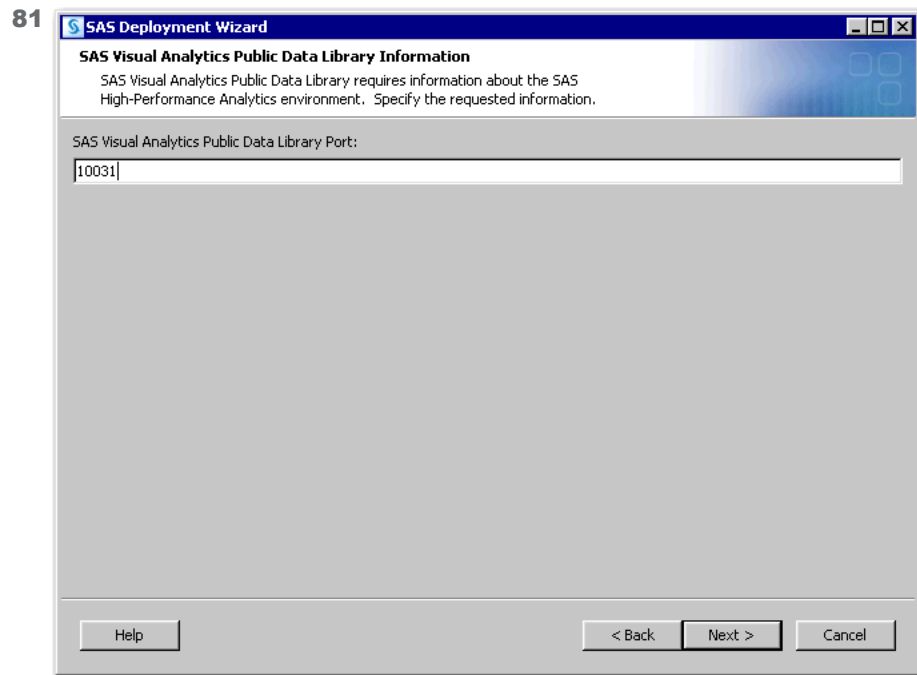
Data Reload Libref:

Data Reload Path:

Help < Back Next > Cancel

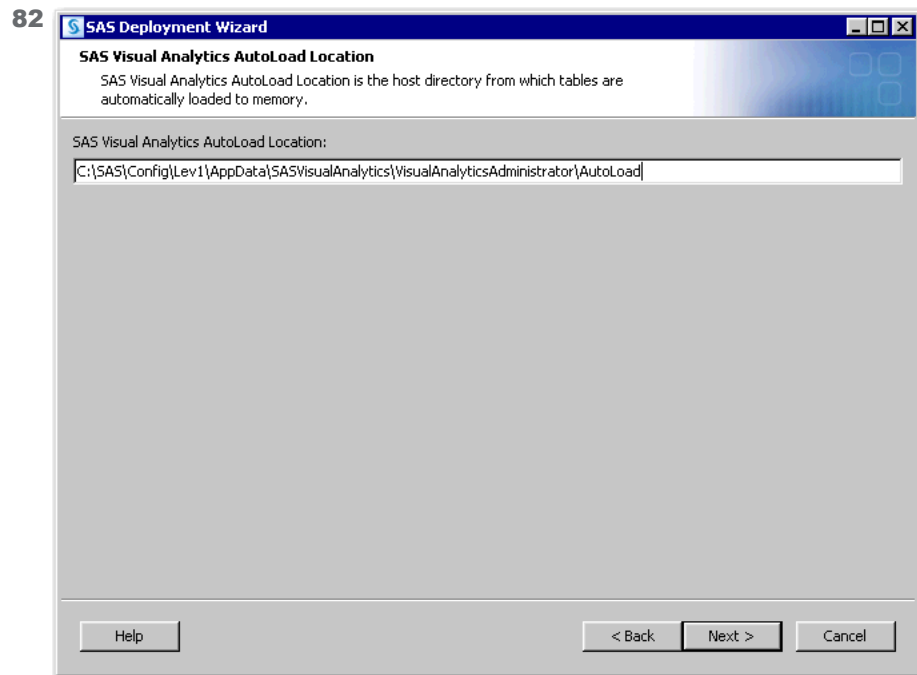
SAS Visual Analytics Public Data Provider

- Do not change any of the default values displayed on this page. Click **Next**.



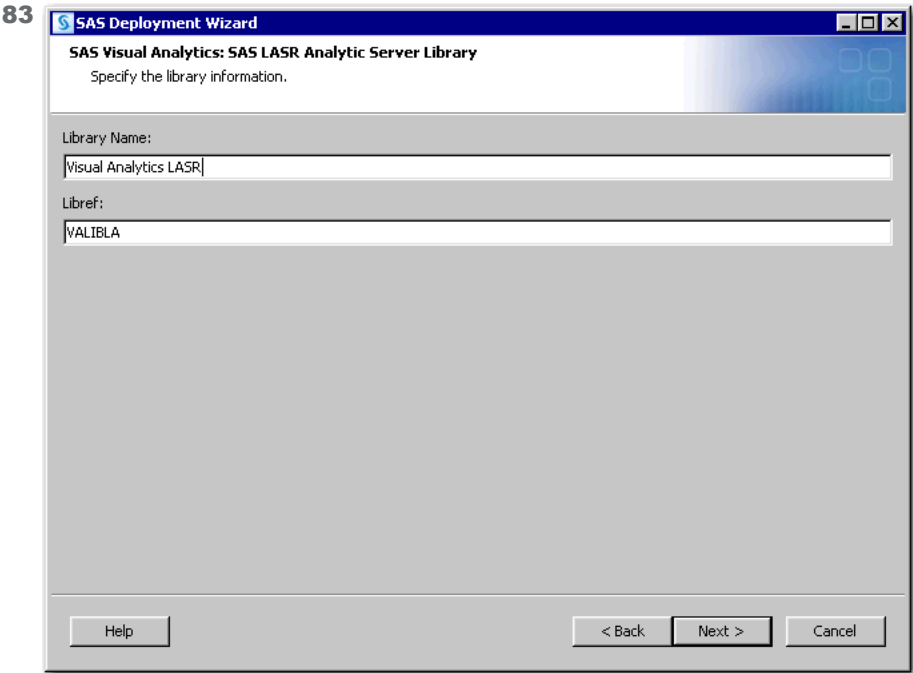
SAS Visual Analytics Public Data Library Information

- Do not change any of the default values displayed on this page. Click **Next**.



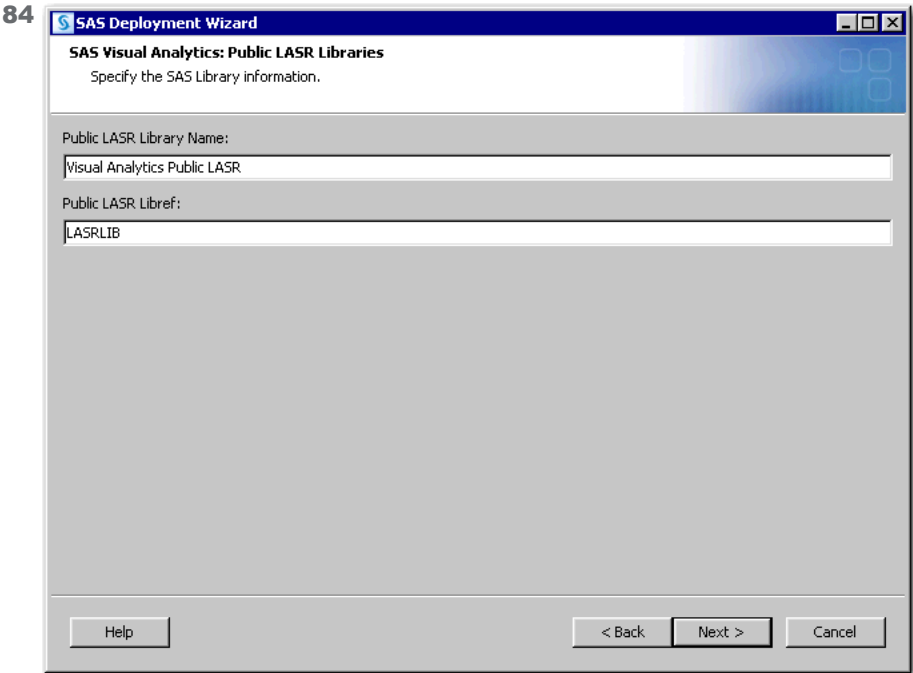
SAS Visual Analytics AutoLoad Location

- Do not change any of the default values displayed on this page. Click **Next**.



SAS Visual Analytics: SAS LASR Analytic Server Library

- Do not change any of the default values displayed on this page. Click **Next**.



SAS Visual Analytics: Public LASR Libraries

- Do not change any of the default values displayed on this page. Click **Next**.

85 **SAS Deployment Wizard**

SAS Visual Analytics Services Database Credentials
Specify the connection information for the SAS Visual Analytics Services Database JDBC connection.

User ID:
vatadm

Password:

Confirm Password:

Help < Back Next > Cancel

SAS Visual Analytics Services Database Credentials

- Enter and confirm the password to be used for the vatadm account. Click **Next**.

Note: Remember this password as you will need it in the future.

- Do not change the user ID information that is displayed on this page.

86 **SAS Deployment Wizard**

SAS Visual Analytics Transport Service: Whitelist Mobile Devices
Specify whether to enforce whitelisting for mobile devices.

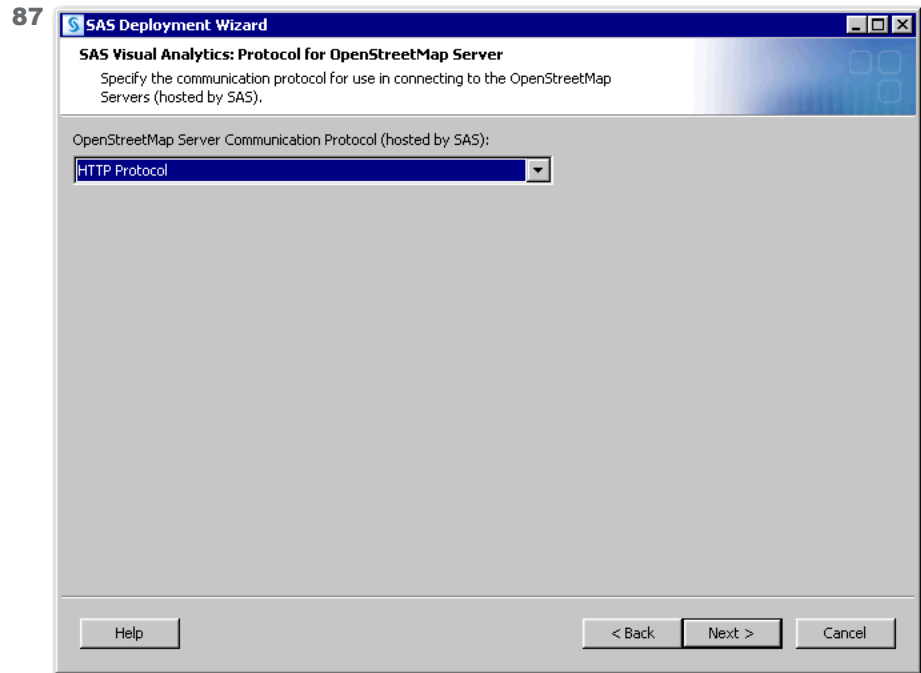
A deployment enforces either the blacklist or the whitelist. These features are mutually exclusive. If the whitelist is enforced, only those devices that are on the whitelist can use SAS Mobile BI.

Enforce whitelist for mobile devices

Help < Back Next > Cancel

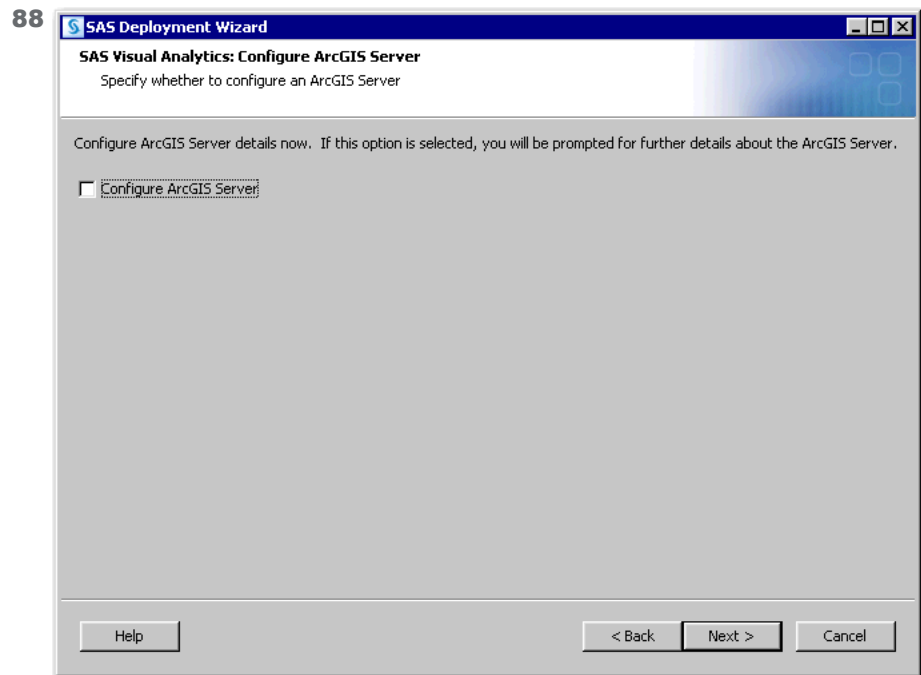
SAS Visual Analytics Transport Service: Whitelist Mobile Devices

- Do not change any of the default values displayed on this page. Click **Next**.



SAS Visual Analytics: Protocol for OpenStreetMap Server

- Do not change any of the default values displayed on this page. Click **Next**.



SAS Visual Analytics: Configure ArcGIS Server

- Do not change any of the default values displayed on this page. Click **Next**.

89 **SAS Deployment Wizard**

SAS Visual Data Builder Database Credentials
Specify the connection information for the SAS Visual Data Builder Database JDBC connection.

User ID:
vdbadm

Password:

Confirm Password:

Help < Back Next > Cancel

SAS Visual Data Builder Database Credentials

- Enter and confirm the password to be used for the vdbadm account. Click **Next**.

Note: Remember this password as you will need it in the future.

- Do not change the user ID information that is displayed on this page.

90 **SAS Deployment Wizard**

SAS Information Retrieval Studio
Specify information for SAS Information Retrieval Studio.

Host Name:
MyMachine.example.com

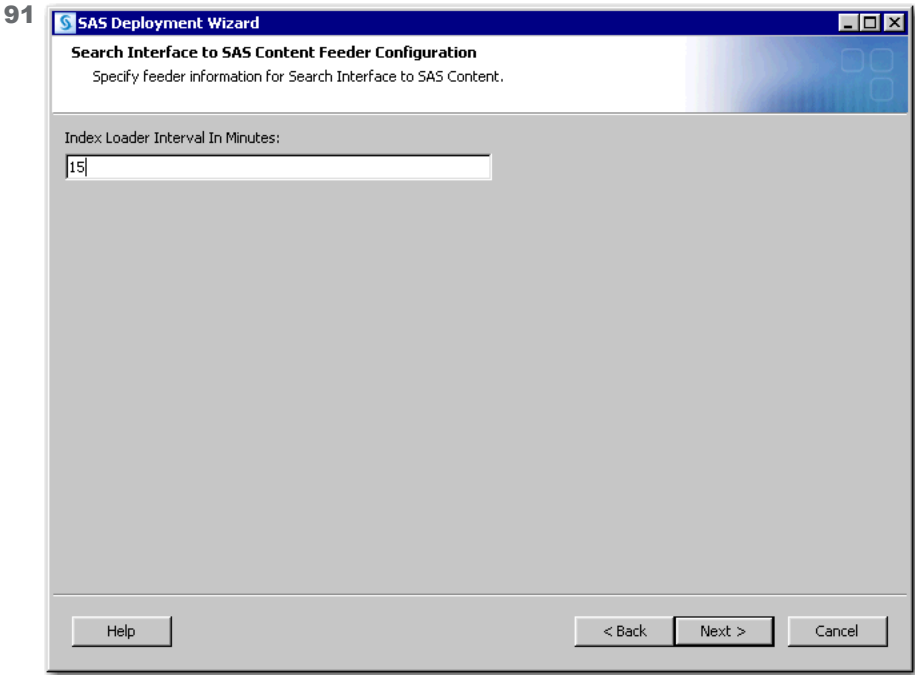
Port:
10651

Service Name:
SAS [Config-Lev1] Information Retrieval Studio

Help < Back Next > Cancel

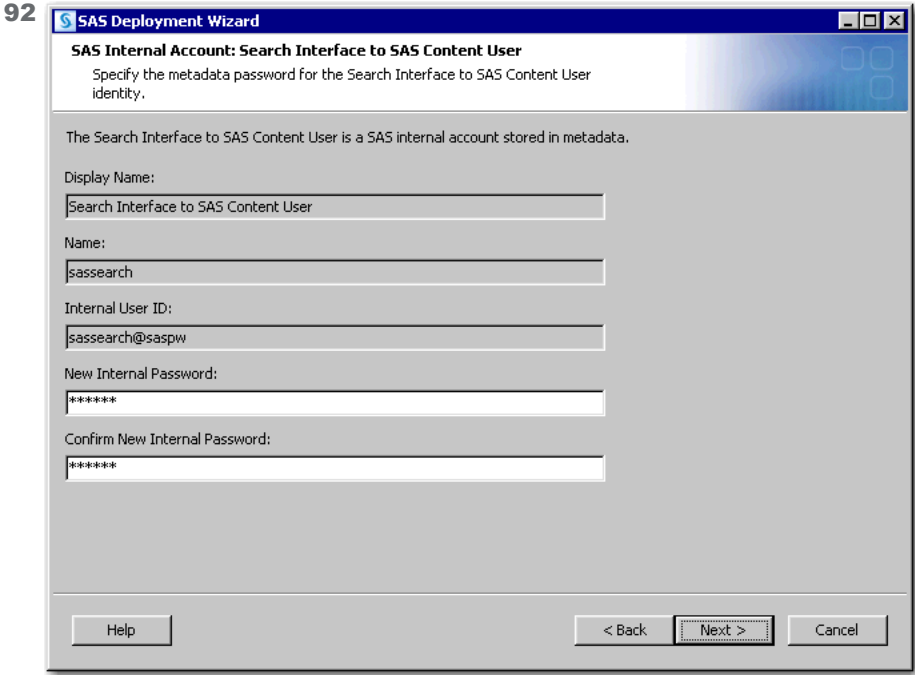
SAS Information Retrieval Studio Port Numbers

- Do not change any of the default values displayed on this page. Click **Next**.



Search Interface to SAS Content Feeder Configuration

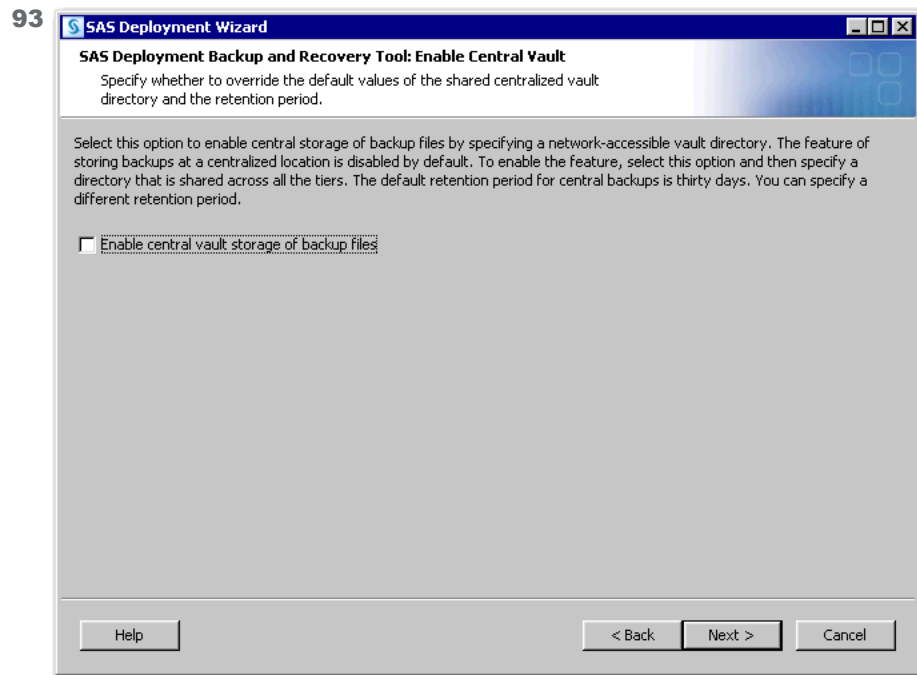
- Do not change any of the default values displayed on this page. Click **Next**.



SAS Internal Account: Search Interface to SAS Content User

- Enter and confirm a metadata password for the internal user account that permits access to SAS content that is provided to SAS Information Retrieval Studio for indexing. The password must contain at least six characters. Click **Next**.

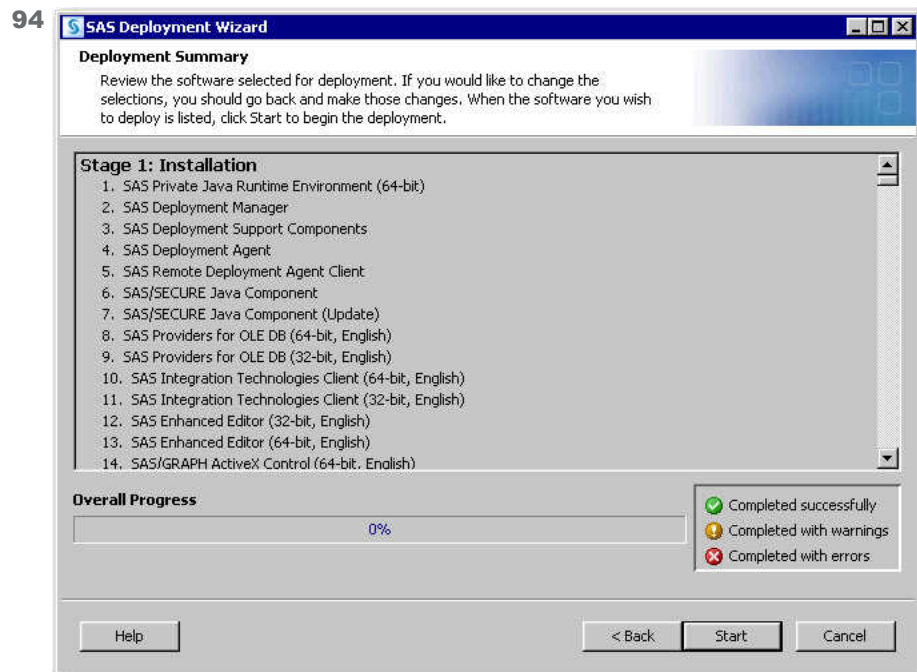
Note: Remember this password as you will need it in the future.



SAS Deployment Backup and Recovery Tool: Enable Central Vault

- Do not change the default information that is displayed on this page. Click **Next**.

TIP If you are deploying a SAS solution, you should refer to your solution-specific documentation to complete your deployment.



Deployment Summary

- Make one of the following choices:

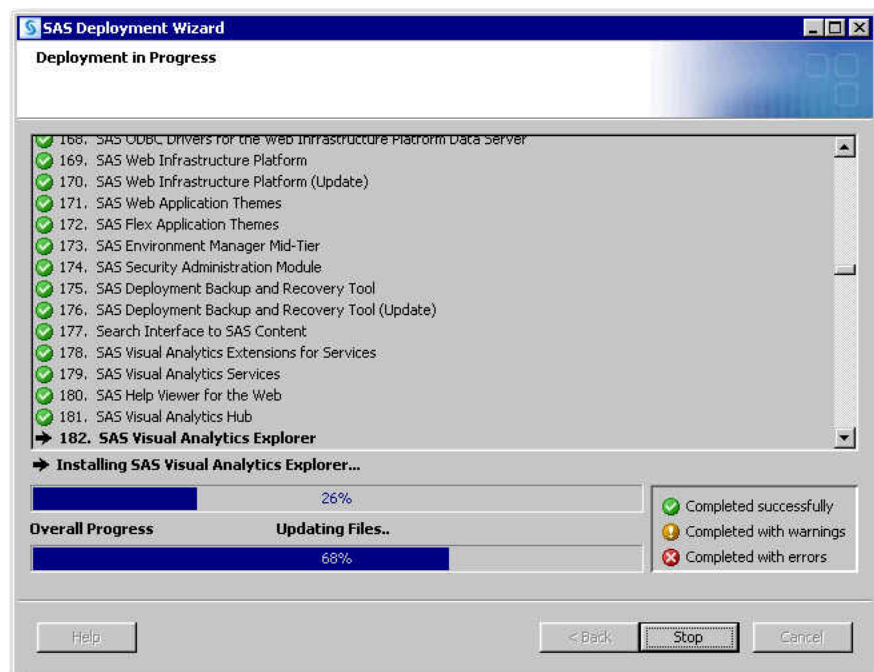
- Click **Start** to begin installing SAS files and writing the configuration to the current machine.

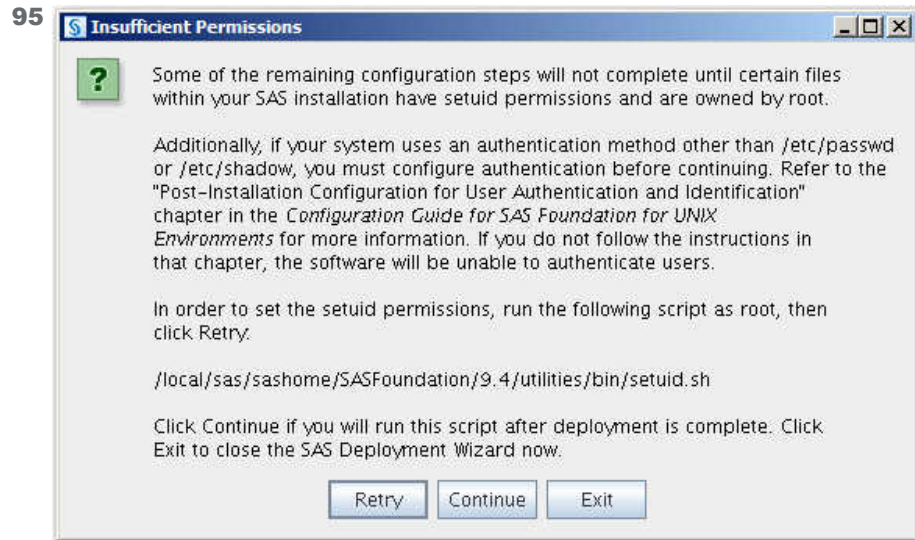
The deployment wizard launches the installation and configuration process and provides an ongoing status update.

- Click **Back** to navigate to earlier wizard pages to change installation and configuration information previously entered.
- Click **Cancel** to terminate the wizard session. Note that you will lose installation and configuration information previously entered.

CAUTION! If you encounter a situation in which the deployment wizard reports a configuration failure, leave the error message displayed and do not continue. Consult additional documentation and, if necessary, contact SAS Technical Support. Moving past an error most often results in having to delete your deployment and start over.

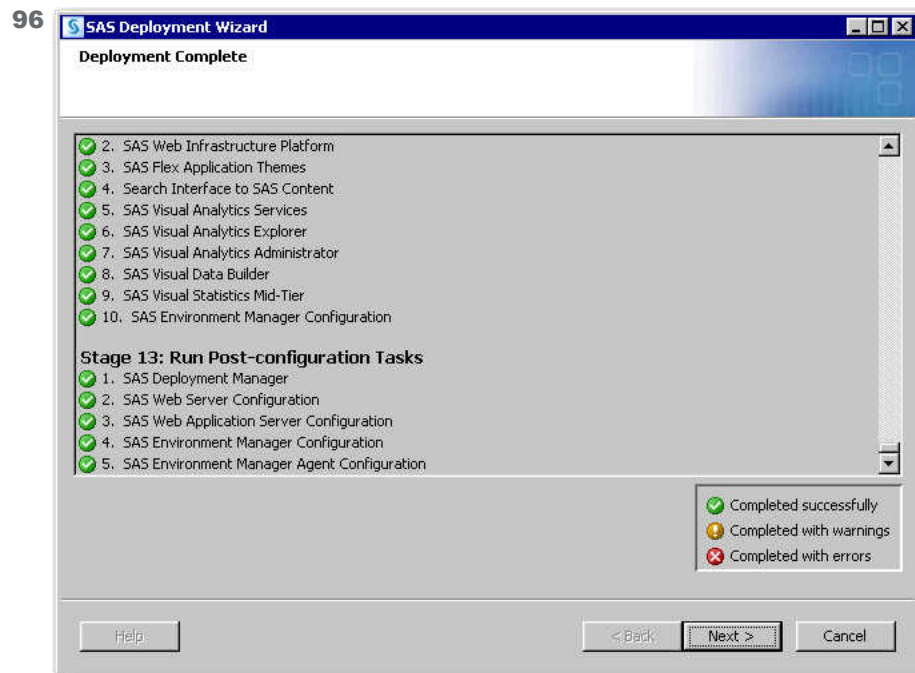
On Windows, the deployment wizard checks to make sure that your machine contains the minimum system requirements necessary to run SAS 9.4. Sometimes it is necessary to reboot your machine after the wizard has installed certain system components. When this occurs, the wizard prompts you to log back on to the machine and continues to the next configuration step in your SAS deployment process.





Insufficient Permissions (Linux only)

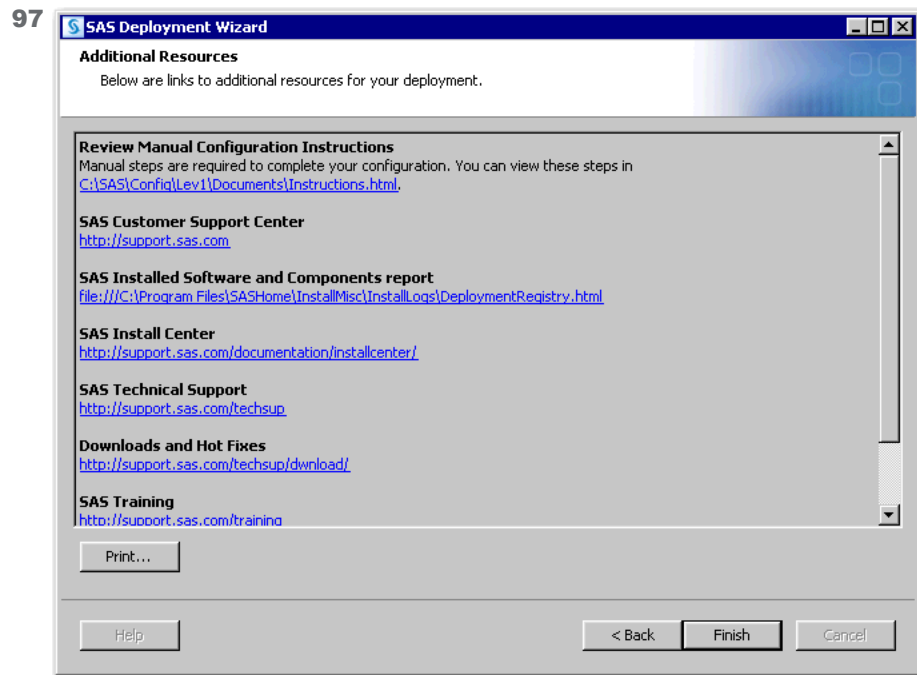
- Keeping this dialog box displayed, run the `setuid.sh` script as root, and then click **Retry**.
- You will not see this dialog box if you chose earlier to run `setuid.sh` as `sudo` using your password. For more information, see [Step 32 on page 28](#).



Deployment Complete

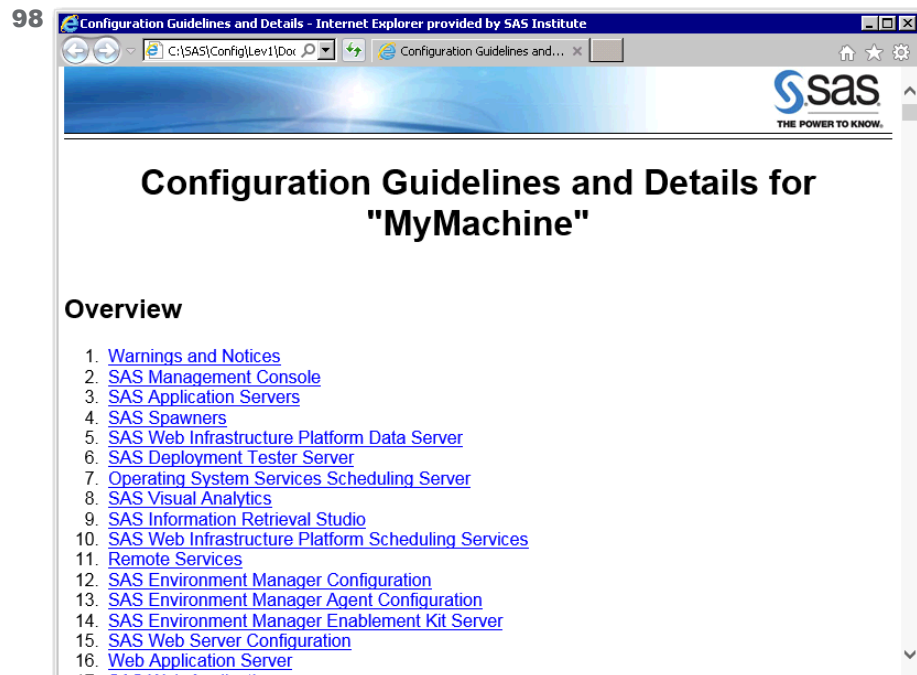
- Green check marks next to every item on this page indicate that your deployment completed successfully. Click **Next**.
- If your deployment was successful, then you are ready to perform the post-deployment steps that are documented in "[Step 5: Perform Post-Deployment Steps](#)" on page 64.

- If you received errors during your deployment, then contact SAS Technical Support at <mailto:support@sas.com>. Attach to your e-mail the files listed in Appendix 3, “Review SAS Deployment Tool Documents, Reports, and Logs,” in *SAS Intelligence Platform: Installation and Configuration Guide*.



Additional Resources

- Click **Finish** to close the SAS Deployment Wizard.



Configuration Guidelines and Details

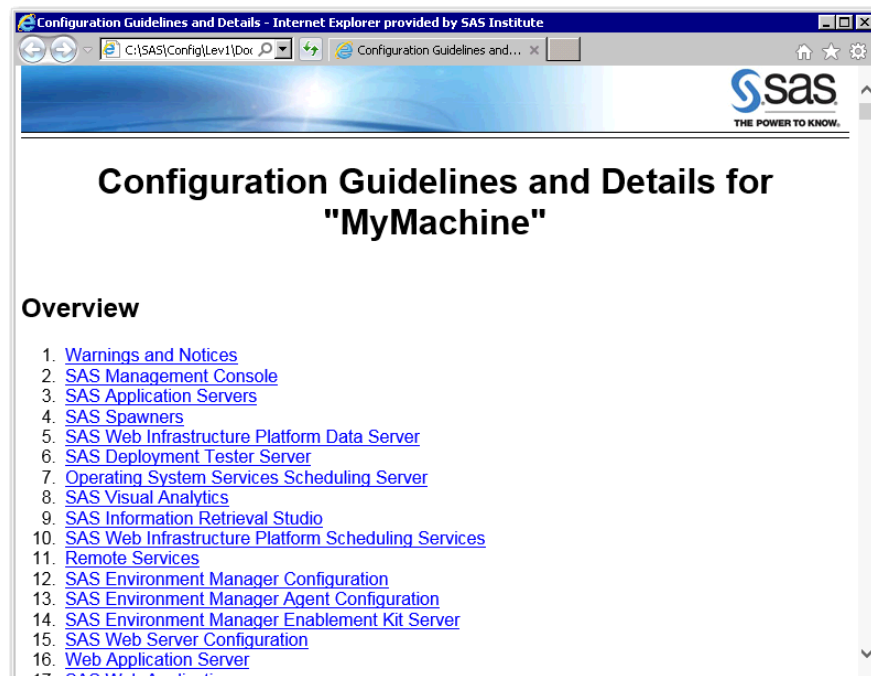
- To complete your SAS deployment, review Configuration Guidelines and Details and perform the steps listed.

Configuration Guidelines and Details (Instructions.html) is automatically generated by the deployment wizard and has post-installation steps specific to your SAS order that you must perform.

Step 5: Perform Post-Deployment Steps

After your deployment has completed, there are some post-deployment steps specific for your SAS order that are documented in your Instructions.html file. Located in *SAS-configuration-directory\Documents*, Instructions.html provides the steps for checking that your SAS servers are running and that your web applications were properly deployed.

Figure 1.4 Configuration Guidelines and Details (Instructions.html)



If you have not already done so, use Instructions.html and perform all the post-deployment steps that it contains.

Remember to restart any anti-virus, anti-malware, anti-spyware, and firewall software that you disabled to deploy SAS.

Proceed to “[Step 6: Add SAS Users](#)”

Step 6: Add SAS Users

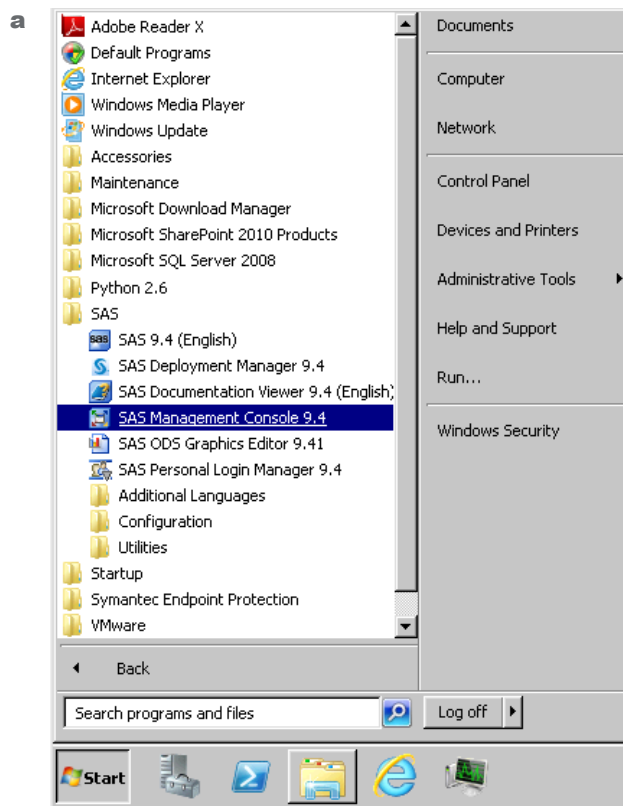
Now that you have deployed SAS and successfully validated that your software is working properly, it is time to add your SAS users to the SAS system. Adding host or domain accounts for SAS users to the SAS metadata gives each user a

SAS metadata identity. This enables SAS users to use the software and access SAS metadata objects.

For more information, see *SAS Management Console: Guide to Users and Permissions*, available at <http://support.sas.com/documentation/cdl/en/mcsecug/64770/PDF/default/mcsecug.pdf>.

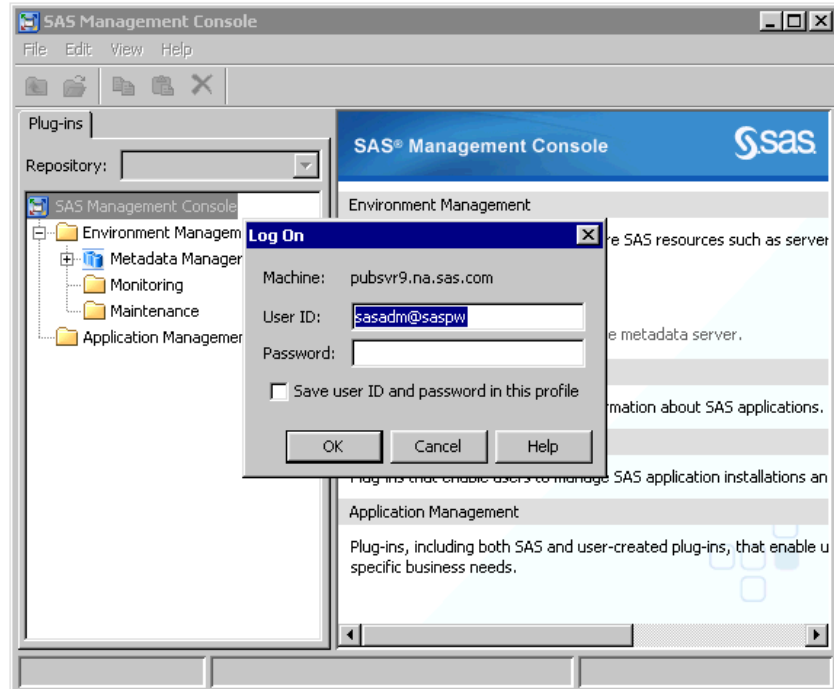
Perform the following steps to add SAS users to SAS metadata:

- 1 Grant the host or domain accounts for each user the required **Log on as a batch job** right. You can do this by adding the user accounts to the SAS Server Users group that was created in the section “[Set Up an Operating System Group](#)” on page 10.
- 2 Create a metadata identity for each user. Follow these steps using SAS Management Console:



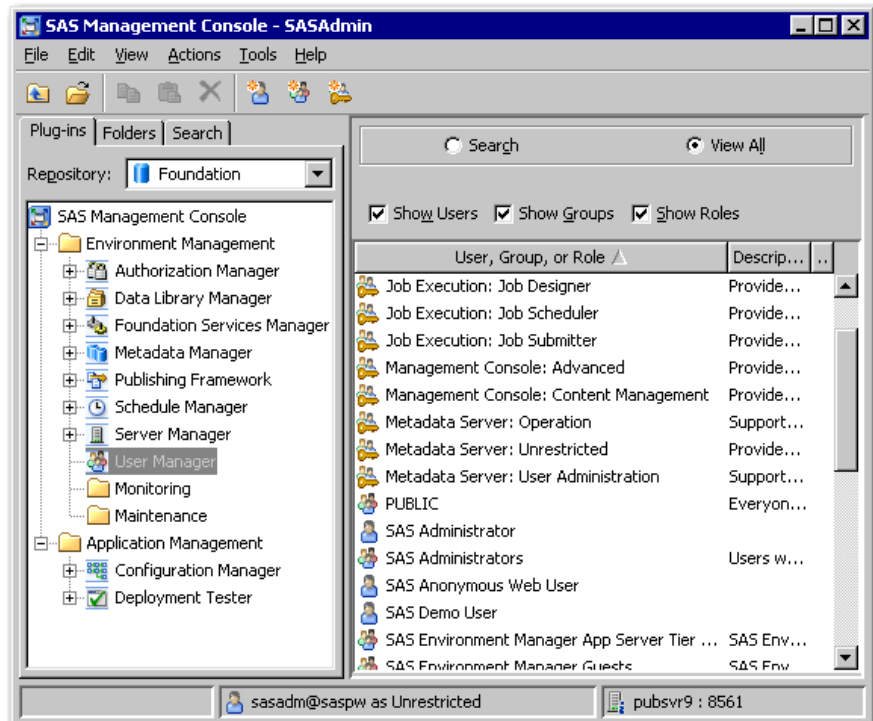
From the Windows **Start** menu, select **All Programs** ► **SAS** ► **SAS Management Console**.

b



In the Log On dialog box, enter the credentials for the SAS Unrestricted User (sasadm@saspw) and the password specified when you deployed SAS.

c



Select **User Manager**.

d Select **Actions** ► **New** ► **User**.

e

The screenshot shows a 'New User Properties' dialog box with the following elements:

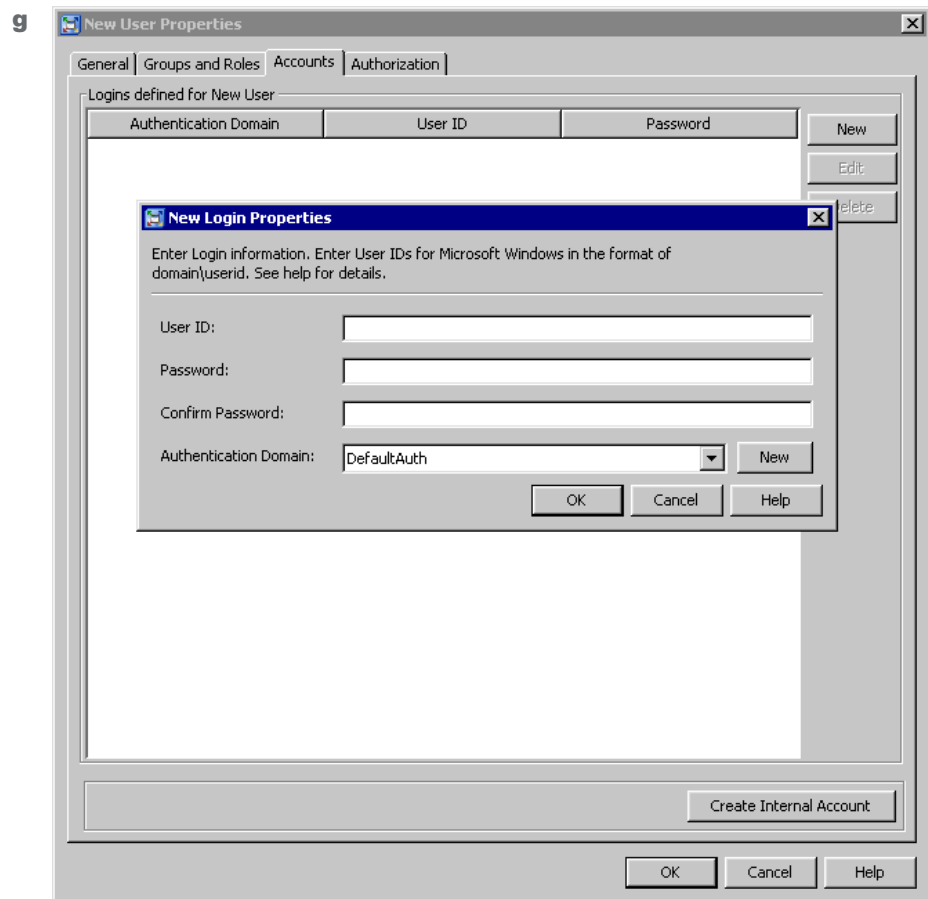
- Tabbed interface: General (selected), Groups and Roles, Accounts, Authorization.
- User icon and 'User' label.
- 'External Identities' button.
- Text fields: Name (containing 'New User'), Display Name, Job Title, and Description.
- Table for contact information:

	Type	Address
E-mail		
Phone		
Address		

Buttons: New, Edit, Delete (under the table); OK, Cancel, Help (at the bottom).

In the **Name** text box, enter the name of the user.

- f Click the **Accounts** tab, and then click **New**.



Enter the fully qualified user ID (for example, *domain\user-ID* or *machine\user-ID*). Leave the **Password** field blank and keep the default value **DefaultAuth** for the **Authentication Domain** field.

- h Click **OK**.
- i Then, click **OK** again.

Proceed to “[Step 7: Validate Your SAS Visual Analytics Deployment](#)”.

Step 7: Validate Your SAS Visual Analytics Deployment

Below is a list of suggestions that you can use to validate your *non-distributed* SAS Visual Analytics deployment. The SAS Visual Analytics documentation referenced is available at <http://support.sas.com/documentation/onlinedoc/va/index.html>.

Table 1.3 Validation Suggestions for SAS Visual Analytics

Purpose	Actions	More Information
Create an account for use later in the validation.	<ol style="list-style-type: none"> 1 Use the SAS LASR Analytic Server installer account (sas), or create a new administrator account such as saslasradm. 2 Assign the Windows user right Log on as a batch job to the account. 	See your operating system documentation.
Create a SAS identity for use later in the validation.*	<p>In SAS Management Console:</p> <ol style="list-style-type: none"> 1 Define a SAS Visual Analytics Administrator (use the account created previously (saslasradm)). 2 Assign the administrator to the Visual Analytics Data Administrators and Visual Data Builder Administrators groups. 	<i>SAS Management Console: Guide to Users and Permissions</i>
Create sample data for use later in the validation.	<p>In SAS Management Console, define a library and register a table. (You can use Sashelp: !SASROOT/sashelp.)</p>	<i>SAS Intelligence Platform: Data Administration Guide</i>
Validate that the home page is running and valid logins are accepted.	<p>Log on to the home page as saslasradm. (http://VA-host.example.com/SASVisualAnalyticsHub)</p>	<i>SAS Visual Analytics: User's Guide</i>
Demonstrate that SAS Visual Analytics Administrator is functional and able to communicate with the SAS LASR Analytic Server.	<p>On the home page, click Administrator. Then, do the following:</p> <ol style="list-style-type: none"> 1 Start a SAS LASR Analytic Server. 2 Add a SAS table directly to SAS LASR Analytic Server. 	<i>SAS Visual Analytics: Administration Guide</i>
Demonstrate that SAS Visual Data Builder is functional.*	<p>On the home page, click Create Data Query. Then, do the following:</p> <ol style="list-style-type: none"> 1 Create a data query. 2 Click Home in the banner to return to the home page. 	<i>SAS Visual Analytics: User's Guide</i>
Demonstrate that SAS Visual Analytics Explorer is functional.**	<p>On the home page, click Create Exploration. Then, do the following:</p> <ol style="list-style-type: none"> 1 Create an exploration. 2 Click Home in the banner to return to the home page. 	<i>SAS Visual Analytics: User's Guide</i>
Demonstrate that SAS Visual Analytics Designer is functional.	<p>On the home page, click Create Report. Then, do the following:</p> <ol style="list-style-type: none"> 1 Create a report. 2 Click Home in the banner to return to the home page. 	<i>SAS Visual Analytics: User's Guide</i>
Demonstrate that the SAS Visual Analytics Graph Builder is functional.	<p>On the home page, click Custom Graph Builder. Then, do the following:</p> <ol style="list-style-type: none"> 1 Create a custom graph object. 2 Click Home in the banner to return to the home page. 	<i>SAS Visual Analytics: User's Guide</i>

Purpose	Actions	More Information
Demonstrate that SAS Visual Analytics Report Viewer is functional.	On the home page, click on a report. Use the object inspector on the home page to view details about the report, and then click View .	<i>SAS Visual Analytics: User's Guide</i>
Demonstrate that SAS Mobile BI is operable.	Deploy SAS Mobile BI. View a SAS Visual Analytics report on a mobile device.	<i>SAS Visual Analytics: User's Guide</i>

* SAS Visual Data Builder requires that an identity be a member of the Visual Data Builder Administrators group. Members of the Visual Analytics Data Administrators group do not have access to SAS Visual Data Builder.

** Some SAS orders do not contain the SAS Visual Analytics Explorer.

Now that you have verified your deployment, you are ready to begin using SAS Visual Analytics.

For information about how to use SAS Visual Analytics, see *SAS Visual Analytics: User's Guide*, available at <http://support.sas.com/documentation/cdl/en/vaug/67500/PDF/default/vaug.pdf>.

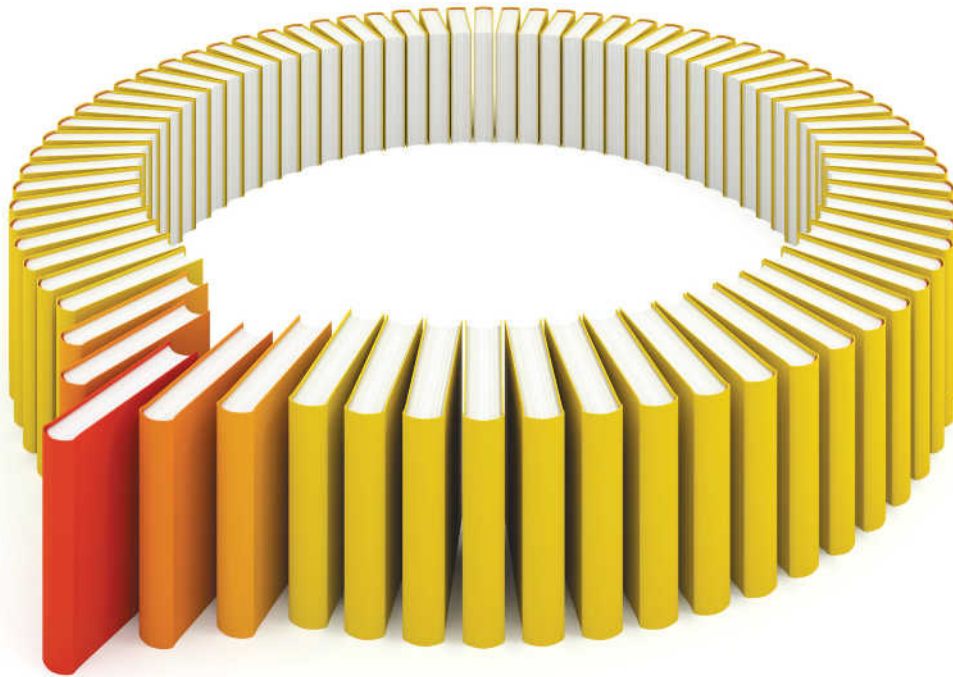
Recommended Reading

Here is the recommended reading list for this title:

- *SAS Guide to Software Updates*
- *SAS LASR Analytic Server: Reference Guide*
- *SAS Visual Analytics: User's Guide*
- *System Requirements--SAS Visual Analytics 7.2 (Distributed or Non-distributed LASR)*, available at <http://support.sas.com/documentation/installcenter/en/ikvisanalytofrsr/68641/HTML/default/index.html>
- SAS offers instructor-led training and self-paced e-learning courses to help you administer SAS Visual Analytics. For more information about the courses available, see support.sas.com/admintraining.

For a complete list of SAS publications, go to sas.com/store/books. If you have questions about which titles you need, please contact a SAS Representative:

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Fax: 1-919-677-4444
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THE POWER TO KNOW.

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