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

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Audience


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.


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.

Using This Book
Deploying SAS Visual Analytics (Non-distributed LASR)

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.
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.


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


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.
5. Perform post-deployment steps.
6. Add SAS Visual Analytics users to the system.

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.
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


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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](http://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

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

* The SAS Deployment Wizard automatically assigns the Log on as a batch job right to the SAS Spawned 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 Spawned 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.
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>
<thead>
<tr>
<th>Third-Party Software</th>
<th>Default Installation Path</th>
<th>Actual Installation Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows PowerShell</td>
<td>C:\Windows \System32\WindowsPowerShell \v1.0</td>
<td></td>
</tr>
<tr>
<td>Python</td>
<td>C:\Python27</td>
<td></td>
</tr>
<tr>
<td>JUnit</td>
<td>C:\junit\junit-4.8.1.jar</td>
<td></td>
</tr>
</tbody>
</table>
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.

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.
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.

10 Specify SAS Installation Data File

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

11 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.
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**.

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.

SAS Visual Analytics: Allow Guest Access

- Do not change any of the default values displayed on this page. Click **Next**.
In the relevant fields, enter the user ID and password for the SAS Spawned 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.

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.
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.
50

SAS Pooled Workspace Server

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

51

SAS Stored Process Server

- Do not change the default information that is displayed on this page. Click Next.
SAS Stored Process Server: Multibridge Connections

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

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.

---

**SAS Web Application Server: JMS Configuration**

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

SAS Environment Manager: Configuration

- Do not change the default information that is displayed on this page. Click Next.
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 EVMManager 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**.
SAS Visual Analytics High-Performance Configuration Information

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

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.
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.

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.
SAS Visual Data Builder Database Credentials

- Enter and confirm the password to be used for the vbadm 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.

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 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.

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.


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:

   a. From the Windows Start menu, select All Programs ➤ SAS ➤ SAS Management Console.

   From the Windows Start menu, select All Programs ➤ SAS ➤ SAS Management Console.
In the Log On dialog box, enter the credentials for the SAS Unrestricted User (sasadm@saspw) and the password specified when you deployed SAS.

Select User Manager.

Select Actions ▶ New ▶ User.
In the **Name** text box, enter the name of the user.

* 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.

Click OK.

Then, click OK again.

Proceed to “Step 7: Validate Your SAS Visual Analytics Deployment”.

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**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](http://support.sas.com/documentation/onlinedoc/va/index.html).
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<th>Purpose</th>
<th>Actions</th>
<th>More Information</th>
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| Create an account for use later in the validation. | 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.* | In SAS Management Console:  
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. | SAS Management Console: Guide to Users and Permissions |
| Create sample data for use later in the validation. | In SAS Management Console, define a library and register a table.  
*(You can use Sashelp: !SASROOT/sashelp.)* | SAS Intelligence Platform: Data Administration Guide |
| Validate that the home page is running and valid logins are accepted. | Log on to the home page as saslasradm.  
| Demonstrate that SAS Visual Analytics Administrator is functional and able to communicate with the SAS LASR Analytic Server. | On the home page, click **Administrator**. Then, do the following:  
1. Start a SAS LASR Analytic Server.  
| Demonstrate that SAS Visual Data Builder is functional.* | On the home page, click **Create Data Query**. Then, do the following:  
1. Create a data query.  
2. Click **Home** in the banner to return to the home page. | SAS Visual Analytics: User's Guide |
| Demonstrate that SAS Visual Analytics Explorer is functional.* | On the home page, click **Create Exploration**. Then, do the following:  
1. Create an exploration.  
2. Click **Home** in the banner to return to the home page. | SAS Visual Analytics: User's Guide |
| Demonstrate that SAS Visual Analytics Designer is functional. | On the home page, click **Create Report**. Then, do the following:  
1. Create a report.  
2. Click **Home** in the banner to return to the home page. | SAS Visual Analytics: User's Guide |
| Demonstrate that the SAS Visual Analytics Graph Builder is functional. | On the home page, click **Custom Graph Builder**. Then, do the following:  
1. Create a custom graph object.  
2. Click **Home** in the banner to return to the home page. | SAS Visual Analytics: User's Guide |
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* 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.

Recommended Reading

Here is the recommended reading list for this title:

- SAS Guide to Software Updates
- SAS LASR Analytic Server: Reference Guide
- 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:

SAS Books
SAS Campus Drive
Cary, NC 27513-2414
Phone: 1-800-727-0025
Fax: 1-919-677-4444
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