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Part 1

Getting Started

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Purpose of This Document

This document provides information about installing and configuring SAS Social Network Analysis Server. The scope of this document is for the full Social Networks Analysis solution as part of the SAS Fraud Framework.

Audience

This document describes how to install and configure SAS Social Network Analysis Server. The intended audience for this document is the implementation team, which is defined as everyone involved in the implementation. This includes system administrators, database administrators, application server administrators, SAS and
third-party consultants, and representatives of the target organization’s management team.

### What Is SAS Social Network Analysis Server?

SAS Social Network Analysis Server is a web-based application that enables investigators and administrators to detect and prevent fraud and to visualize connected layers of data. By combining network detection and visualization algorithms with the ability to mine massive amounts of data, this product can reveal previously undetected relationships. Investigators can use this web-based interface to investigate suspicious activity and examine network relationships.

### Implementation Roles and Responsibilities

Understanding the different roles and their responsibilities facilitates the most efficient implementation and maintenance of the solution. A single individual can play more than one role, and roles and responsibilities should not be confused with individual people.

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Administrator</td>
<td>Configure schema and database user IDs for use with SAS Social Network Analysis Server. A DBA is required to review, modify, and execute the DDL; monitor and maintain the databases; and update application tables as needed.</td>
</tr>
<tr>
<td>SAS Administrator</td>
<td>Assign roles to investigators for SAS Social Network Analysis Server.</td>
</tr>
<tr>
<td>Batch Administrator</td>
<td>Administer the ETL, alert generation process, and risk classification process.</td>
</tr>
<tr>
<td>Role</td>
<td>Responsibilities</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>System Administrator</td>
<td>Configure data sources, data stores, and investigation paths. Monitor and maintain the infrastructure, resources, and environment where SAS Social Network Analysis is running. This includes, but is not limited to, managing system and application security, network usage, disk space, hardware, user and group definitions, reports, and the Investigation UI.</td>
</tr>
<tr>
<td>Investigation User</td>
<td>Use SAS Social Network Analysis Server to investigate, review, and validate suspicious activity. Investigation Users often work in an institution’s risk and compliance organization or Financial Intelligence Unit.</td>
</tr>
</tbody>
</table>

**Technical Support**

SAS Technical Support is the first group to contact regarding installation and configuration issues that are encountered.

To contact SAS Technical Support:

Customers in the U.S. and Canada: Call (919) 677-8008, Monday through Friday, for free support from our corporate headquarters in Cary, North Carolina.

Customers outside the U.S. and Canada: Go to [http://support.sas.com/techsup/contact/index.htm](http://support.sas.com/techsup/contact/index.htm) for contact information for your local SAS office.

For complete information about our technical support policies, as well as for information about how to access our e-mail, fax, and mail support, visit [http://support.sas.com/techsup/support.html](http://support.sas.com/techsup/support.html).
System and Installation Overview

System Architecture Overview

Migration and Update Support

Outline of Installation, Configuration, and Post-installation Procedures

Installation, Configuration, and Post-installation Results

System Architecture Overview

SAS Social Network Analysis Server is an offering typically included with the SAS Fraud Framework. The SAS Social Network Analysis Server solution is designed to be optimized easily for use in various industries, such as the following:

- banking
- insurance
- health care
- government

For purposes of installation and configuration, the system is divided into three sections—a client tier, a middle tier, and a data tier. The relationship of these tiers for the SAS Fraud Framework is shown in the following figure.
Within the SAS Fraud Framework, investigators can use SAS Social Network Analysis Server to triage and manage alerts.

This chapter describes some of the high-level steps that are needed to create and configure this tiered architecture.

Migration and Update Support

SAS Social Network Analysis Server 6.2 supports the following migration paths.
<table>
<thead>
<tr>
<th>Source</th>
<th>Target</th>
<th>Method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version 2.3 first maintenance release</td>
<td>Version 6.2 first maintenance release</td>
<td>Migration (SAS Migration Utility)</td>
<td>Enables upgrading from the first maintenance release of version 2.3 to the latest version of SAS Social Network Analysis Server.</td>
</tr>
<tr>
<td>Version 6.2</td>
<td>Version 6.2 first maintenance release</td>
<td>Migration (SAS Migration Utility)</td>
<td>Enables migration to other environments on the same platform and solution version, such as from development to testing or production.</td>
</tr>
<tr>
<td>Version 6.2 first maintenance release</td>
<td>Version 6.2 first maintenance release</td>
<td>Migration (SAS Migration Utility)</td>
<td>Enables migration to the same version of the software on a different hardware and software platform.</td>
</tr>
</tbody>
</table>

For information about migrating to SAS Social Network Analysis Server 6.2 from a release different from that in the preceding table, contact your technical support representative.

In addition, SAS Social Network Analysis Server 6.2 supports the following update paths.
### Outline of Installation, Configuration, and Post-installation Procedures

The following are the high-level steps for migrating, installing, configuring, and performing post-installation tasks for SAS Social Network Analysis Server:

**Installation and Configuration Procedure**

1. If you are migrating or updating from an existing version of SAS Social Network Analysis Server, review the migration and update instructions. See [Appendix 1, “Migration and Update Tasks,” on page 87](#) for more information about migration and update scenarios.

2. Confirm that the pre-installation requirements for SAS 9.4, the system requirements for SAS 9.4, and the system requirements for SAS Social Network Analysis Server 6.2 have been met. For more information about pre-installation, see [Chapter 3, “Preparing for SAS Installation,” on page 17](#).  

**CAUTION! Avoid delays in the installation process.** In some deployments, requests for user IDs must be submitted. If requests for user IDs need to be made, make the request early and confirm setup before proceeding with the process. Otherwise, you might encounter delays for installing and configuring SAS software.

---

### Table of Versions

<table>
<thead>
<tr>
<th>Source</th>
<th>Target</th>
<th>Method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version 6.1</td>
<td>Version 6.2 first maintenance release</td>
<td>Update</td>
<td>Enables update to a new version of the software on the same hardware and software platform.</td>
</tr>
<tr>
<td>Version 6.2</td>
<td>Version 6.2 first maintenance release</td>
<td>Update</td>
<td>Enables update to the first maintenance release of the software on the same hardware and software platform.</td>
</tr>
</tbody>
</table>
Pre-installation includes some database pre-installation tasks. For more information about these tasks, see “Performing Database Pre-installation Tasks” on page 23.

3 Launch the SAS Deployment Wizard and specify **Install SAS Software**.
   Use the SAS Deployment Wizard to install, but not configure, the following:
   
   a  SAS Foundation
   
   b  SAS/ACCESS
   
   c  SAS Social Network Analysis Server. This includes the SAS Social Network Analysis Server middle tier, which can be installed on the same machine as SAS Social Network Analysis Server.

   For more information about installing SAS Social Network Analysis Server, see Chapter 4, “Installing SAS Social Network Analysis Server,” on page 35.

4 Prepare and configure one of the following third-party software databases.
   [ ] Oracle Database
   [ ] PostgreSQL Server
   [ ] IBM DB2
   [ ] Microsoft SQL Server

   See Chapter 5, “Preparing and Configuring the Database,” on page 43 for additional information about preparing and configuring your database.

5 Run the SAS Deployment Wizard in configure mode to configure the installed SAS software.

   See Chapter 6, “Configuring SAS Social Network Analysis Server,” on page 61 for additional information about configuring your solution.

**Post-installation Procedure**

1 Perform post-installation and configuration tasks for SAS 9.4 and SAS Social Network Analysis Server:
SAS 9.4

- Access the appropriate documentation resources for your operating system as indicated in “Post-installation Configuration for SAS 9.4” on page 71.
- Follow the instructions to complete the post-installation steps for SAS 9.4.
- Continue with the post-installation procedures for SAS Social Network Analysis Server.

SAS Social Network Analysis Server

- Import SAS stored processes from a SAS package.
- Deploy the imported SAS stored processes as a web service.
- Add an Investigator group and investigators.

For more information about post-installation instructions for SAS Social Network Analysis Server, see Chapter 8, “Performing Post-installation Steps for SAS Social Network Analysis Server,” on page 73.

2. Navigate to http://server:port/SASSNA and log on to verify that SAS Social Network Analysis Server is working.

Installation, Configuration, and Post-installation Results

When completed and staged with data, the solution contains a network viewer interface for viewing and managing social networks, alerts, and alert series.

After the installation, configuration, and post-installation procedures are complete for SAS Social Network Analysis Server, you can launch the application from the following web address:
http://server:port/SASSNA. In this URL, specify the server name and port that are appropriate for your installation.

**Note:** If you have not completed the post-installation tasks to install a default template that the user has the metadata authorization to access, a dialog box appears to inform you that no alert series are defined.

You can make other enhancements to customize the application. See *SAS Social Network Analysis Server: Administration Guide* for additional configuration and customization features for SAS Social Network Analysis Server.
Part 2

Installation Preparation

Chapter 3
*Preparing for SAS Installation*
# Preparing for SAS Installation

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## Default File and Data Locations

The following table shows the default locations of the directories and files that are installed with SAS Social Network Analysis Server. Use this table as a reference as you proceed through the installation and deployment process.

**Table 3.1  Default File and Data Locations**

<table>
<thead>
<tr>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SAS-installation-directory</strong></td>
<td>Windows: \ Program Files\SASHome\</td>
</tr>
<tr>
<td>The SAS installation directory.</td>
<td>UNIX: /usr/local/SASHome/</td>
</tr>
</tbody>
</table>

| **SAS-configuration-directory** | Windows: \ SAS\Config\ |
| The SAS configuration directory. | UNIX: /usr/local/config/ |

**Note:** This is the default value. The path might vary by individual installations.

<p>| <strong>!SASROOT</strong> | Windows: SAS-installation-directory\SASFoundation\9.4\ |
| This document uses !SASROOT to represent the SAS Foundation directory. | UNIX: SAS-installation-directory/ SASFoundation/9.4/ |</p>
<table>
<thead>
<tr>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
</table>
| SAS Social Network Analysis Server Middle-Tier Staging Directory | Windows:  
*SAS-configuration-directory*\Lev<num>\Web\Staging/  

UNIX:  
*SAS-configuration-directory*/Lev<num>/Web/Staging/ |
| SAS Deployment Wizard Summary                   | Windows:  
*SAS-configuration-directory*\Lev<num>\Documents\DeploymentSummary.html  

UNIX:  
*SAS-configuration-directory*/Lev<num>/Documents/DeploymentSummary.html |
| Configuration Logs                              | Windows:  
*SAS-configuration-directory*\Lev<num>\Logs\Configure  

UNIX:  
*SAS-configuration-directory*/Lev<num>/Logs/Configure |
| SAS Social Network Analysis Server Middle-Tier Web Log | Windows:  
*SAS-configuration-directory*\Lev<num>\Web\Logs\SASServer8_1\SASSocialNetworkAnalysis6.2.log  

UNIX:  
*SAS-configuration-directory*/Lev<num>/Web/Logs/SASServer8_1/  
SASSocialNetworkAnalysis6.2.log |
Reviewing the Pre-installation Documentation for SAS Social Network Analysis Server

The SAS Intelligence Platform documentation provides detailed information about the pre-installation tasks that are required to install SAS Intelligence Platform. For information about pre-installation tasks that are required to install SAS Intelligence Platform, see the *SAS Intelligence Platform: Installation and Configuration Guide* at http://support.sas.com/documentation/cdl/en/biig/63852/PDF/default/biig.pdf.


**Note:** Before installing SAS Social Network Analysis Server, you should also check for any SAS support site hotfixes or SAS notes.

The following table contains URLs to documentation for installing SAS 9.4 Foundation on UNIX and Microsoft Windows environments. Navigate to the URL that corresponds to the appropriate operating system and follow all of the applicable steps on those sites.

**Table 3.2 SAS 9.4 Installation References**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Title</th>
<th>URL</th>
</tr>
</thead>
</table>
Completing Pre-installation Tasks for SAS 9.4

Overview of Pre-installation Tasks

After you have completed the pre-installation review, you must ensure that you complete a set of pre-installation tasks before you begin to install SAS Intelligence Platform and SAS Social Network Analysis Server. This includes verifying your operating system requirements, creating the required user accounts, addressing database requirements, and obtaining your SAS software.

Use the following sections to help guide you through the pre-installation tasks that you should complete before you install SAS Social Network Analysis Server.

Verifying the Operating System Requirements

Before you install SAS Social Network Analysis Server, ensure that the minimum system requirements are met. These requirements are described in the system requirements documentation. System requirements are unique for each operating system. Items that are addressed as system requirements include the following:

- software requirements
- hardware requirements
- space requirements
- specific product requirements
- graphics hardware and software compatibility

To view system requirements for SAS Social Network Analysis Server:


2. Under Current Releases, select the SAS 9.4 link.
The Search page appears, showing the **Results Filter** tab. The 9.4 **SAS Release** option is selected.

3 Perform each of the following steps:

   a From the **Product** drop-down list on that web page, select **SAS Social Network Analysis Server**.

      The page updates to show the linked documents that meet the specified criteria.

   b Click the name of the target link to access the system requirements document.

      The page that is displayed includes information about the server tier, the middle tier, and the client tier, as appropriate. Use the drop-down menus to select a target environment where the requirements can be displayed.

### Creating the SAS Social Network Analysis Server User Accounts

As a post-installation task, user IDs for your investigators must be created in metadata, and then the user IDs must be associated with SAS Social Network Analysis Server through the Social Network Analysis Investigator role.

For more information about administering user accounts in SAS Management Console, see *SAS Management Console: Guide to Users and Permissions*.

For more information about adding investigators to the Social Network Analysis Investigator role, see “Adding Investigators” on page 81.

For information about preparing your database users and access permissions, see Chapter 5, “Preparing and Configuring the Database,” on page 43.

### Obtaining a Deployment Plan

Before you can install SAS Social Network Analysis Server, you must obtain a deployment plan. The deployment plan is a summary of the software that is installed and configured during your installation. A deployment plan file, named plan.xml, contains information about what software should be installed and configured on each
machine in your environment. This plan serves as a resource during the installation and configuration process.

**Note:** A deployment plan is not required when performing an update.

For more information, see “About Deployment Plans” in the *SAS Intelligence Platform: Installation and Configuration Guide* at http://support.sas.com/documentation/onlinedoc/intellplatform.

---

**Creating a SAS Software Depot and Obtaining a SAS Installation Data (SID) File**

Download the software that is listed in your SAS Software Order with the SAS Download Manager. This creates a SAS Software Depot, which includes the SAS installation data (SID) file. The SID file contains information that is used by the SAS system to install and license SAS software. After you have downloaded the SAS Software Depot, you can then use the SAS Deployment Wizard to install your software.


---

**Performing Database Pre-installation Tasks**

**Installing a Database**

SAS Social Network Analysis Server requires that you have a third-party database management system (DBMS) installed and the appropriate database or schema created. You should install this software before installing SAS Social Network Analysis Server. During the configuration of SAS Social Network Analysis Server, the SAS Deployment Wizard requires information about the database that SAS Social Network Analysis Server uses.

SAS Social Network Analysis Server supports the following third-party databases:
Installation of the database management system is beyond the scope of this guide. In addition, you should review the database pre-installation and installation material and consult with your database administrator (if applicable) before creating a database or schema for SAS Social Network Analysis Server.


**Installing JDBC Drivers**

The SAS Social Network Analysis Server middle-tier web application requires access to the databases through JDBC. Install the JDBC driver for the databases on the middle-tier machine.

**Note:** The following JDBC drivers must be placed in a separate directory without any other files to ensure proper installation and configuration of SAS Social Network Analysis Server.


- **PostgreSQL**: SAS Social Network Analysis Server uses a JDBC driver that is included in the SAS Web Infrastructure Platform Data Server. No additional installation is required.

DB2: SAS Social Network Analysis Server uses two JDBC files: db2jcc4.jar and db2jcc4_license_cu.jar. These files are located in the \sqlib\java directory of your DB2 installation.

**Determining the Database Character Encoding**

Before you install SAS Social Network Analysis Server or create the database supporting it, you must decide which database character encoding to use for your environment. Read your database vendor's documentation on National Language Support (NLS) before you create your database.

If you are using DB2 or SQL Server environments using languages that require multi-byte characters, then you might need to customize the DDL to expand the widths of CHAR and VARCHAR columns. Expanding the CHAR and VARCHAR columns accommodates the additional bytes that are required to store each character. Oracle environments using multi-byte characters do not require this customization, but your DBA should ensure that the NLS_LENGTH_SEMANTICS parameter is set to `character` as opposed to `byte`.

For more information about database pre-installation instructions on Oracle for non-English implementations of SAS Social Network Analysis Server, see “Review Instructions for Non-English Implementations on Oracle” on page 27.

For more information about database pre-installation instructions on DB2 for non-English implementations of SAS Social Network Analysis Server, see “Review Instructions for Non-English Implementations on DB2” on page 28.

For more information about database pre-installation instructions on SQL Server for non-English implementations of SAS Social Network Analysis Server, see “Review Instructions for Non-English Implementations on SQL Server” on page 29.

**Installing a Database Client**

SAS Social Network Analysis Server supports Oracle, DB2, PostgreSQL, and SQL Server databases. As a post-installation task, you must run several database scripts. These scripts are provided in the SAS Social Network Analysis Server Administrative
solution to prepare and initialize your database. These database scripts assume that a database client application is installed and available on the PATH for your operating system. Therefore, ensure that you have installed a database client to run these scripts.

You might also need to install the database client on the server tier machine if your server tier is used to run certain stored processes that access your database.

**Reviewing the Required Database Information**

During the configuration of SAS Social Network Analysis Server, the SAS Deployment Wizard requires information about the database that SAS Social Network Analysis Server uses. The following table provides information that you must have to complete the steps in the SAS Deployment Wizard.

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Database Type</td>
<td>Specifies the database vendor to use with SAS Social Network Analysis Server. SAS Social Network Analysis Server supports the Oracle, SQL Server, DB2, and PostgreSQL databases.</td>
</tr>
<tr>
<td>User Name or Schema</td>
<td>Specifies the user name for the database used with your SAS Social Network Analysis Server installation.</td>
</tr>
<tr>
<td>Note:</td>
<td>The schema user requires adequate permissions to create all objects required for the schema initialization. For Oracle, these include sequences, tables, and indexes.</td>
</tr>
<tr>
<td>Note:</td>
<td>The user name and schema name are identical when created using the PrepareDatabase script.</td>
</tr>
<tr>
<td>Password</td>
<td>Specifies a valid password for the user name associated with the database account.</td>
</tr>
<tr>
<td>Port</td>
<td>Specifies the port used by the database. The default ports for the databases supported by SAS Social Network Analysis Server are as follows:</td>
</tr>
<tr>
<td></td>
<td>Oracle: 1521</td>
</tr>
<tr>
<td></td>
<td>DB2: 50000</td>
</tr>
<tr>
<td></td>
<td>PostgreSQL: 5432</td>
</tr>
<tr>
<td></td>
<td>Microsoft SQL Server: 1433</td>
</tr>
<tr>
<td>Property</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Host Name</td>
<td>Specifies the host name of the machine where the database is installed.</td>
</tr>
<tr>
<td>Database Name</td>
<td>Specifies the database name. For Oracle databases, you must use the service name in the SAS Deployment Wizard.</td>
</tr>
<tr>
<td>DBMS JDBC JAR File</td>
<td>Specifies the location of the database vendor’s JDBC JAR file to facilitate Java access. You must have this file available on the middle tier.</td>
</tr>
<tr>
<td>Path to DB2 License JAR File (DB2 only)</td>
<td>Specifies the location of the DB2 license JAR file.</td>
</tr>
</tbody>
</table>

**Database Pre-installation: Oracle Database**

**Review Instructions for Non-English Implementations on Oracle**

Read your database vendor's documentation on National Language Support (NLS) before attempting to implement your database for SAS Social Network Analysis Server. You should perform these steps before executing the DDL:

1. Create the database with a UTF-8 character set.

   SAS recommends AL32UTF8 for Oracle. Consult your RDBMS documentation to determine the correct settings for your database platform and language.

2. Set the default for NLS semantics to `character` as opposed to `byte`.

   For more information, check the documentation for your relational database. Here is an example:

   ```
   NLS_LENGTH_SEMANTICS = CHAR
   ```

3. Set the environment variable NLS_LANG.

   For example, Russian would be as follows:

   ```
   NLS_LANG = RUSSIAN_CIS.CLS8MSWIN1251
   ```
For a complete listing of all NLS_LANG options for Oracle, see the Oracle Database Globalization Support Guide at


Optional: Create the Oracle User for SAS Social Network Analysis Server

Before configuring SAS Social Network Analysis Server to work with Oracle, you must create a user in Oracle with the following privileges:

- CREATE SESSION
- CREATE SEQUENCE
- CREATE TABLE

In addition, that user must have adequate table space quota for its default and temporary table spaces. The user’s default schema must be set to the one SAS Social Network Analysis Server uses. The schema user requires adequate permissions to create all objects required for the schema initialization. For Oracle, these include sequences, tables, and indexes.

After you have completed the initial installation of SAS Social Network Analysis Server, a database script is provided to enable you to prepare your database and create this user with the appropriate permissions and quotas. For more information about this script, see “Preparing Your Oracle Database” on page 47.

Database Pre-installation: DB2

Review Instructions for Non-English Implementations on DB2

1 Read DB2 documentation on National Language Support (NLS).

   The following links provide information about DB2 V10.x in non-English environments. To find similar information for earlier releases, open the IBM DB2 Information Center for those versions. Use DB2 documentation to determine the correct settings for your database platform and language.

   For NLS questions on supported interfaces, enhancements, and application development considerations, see the information about the IBM website.
Japanese and Traditional Chinese EUC and UCS-2 code set considerations:

Naming rules in NLS and Unicode environments:

Applications connected to Unicode databases and CLI, ODBC, JDBC, and SQLJ programs in a DBCS environment:

2 If necessary, expand field widths.

Environments using languages that require multi-byte characters might need to customize the DDL to expand the widths of CHAR and VARCHAR fields. Expanding the CHAR and VARCHAR columns accommodates the additional bytes required to store each character.

Create the DB2 Operating System Account for SAS Social Network Analysis Server

If you are using DB2, you must create an operating system account for the DB2 database user name that you will later specify in the SAS Deployment Wizard. Although SAS Social Network Analysis Server 6.2 uses JDBC for connecting to the database, you might need an ODBC connection for running certain stored processes that impact the database, such as the migration scripts. In this case, SAS/ACCESS for DB2 is required, and the environment variables need to be set so that SAS servers can access the database.

Database Pre-installation: SQL Server

Review Instructions for Non-English Implementations on SQL Server

1 Read the SQL Server documentation on National Language Support (NLS).
Information about the SQL Server in non-English environments is available at the Microsoft Developers Network (MSDN) at SQL Server National Language Support.

2 Install the database with a UTF-8 character set.

Consult your RDBMS documentation to determine the correct settings for your database platform and language.

3 If necessary, expand field widths.

Environments using languages that require multi-byte characters might need to customize the DDL to expand the widths of CHAR and VARCHAR fields. Expanding the CHAR and VARCHAR columns accommodates the additional bytes required to store each character.

Optional: Create the SQL Server User for SAS Social Network Analysis Server

Before configuring SAS Social Network Analysis Server, you must create a user in SQL Server with access to the target database. Create a schema and make the new user the owner of the schema. Set that as the default schema for the user for that database.

After you have completed the initial installation of SAS Social Network Analysis Server, a database script is provided to enable you to prepare your database and create this user with the appropriate permissions. For more information about this script, see “Preparing Your SQL Server Database” on page 55.

Configure the Microsoft SQL Server ODBC Connection

If you are using SAS Access for ODBC in Windows, you need to create a System DSN (Data Source Name). Although SAS Social Network Analysis Server 6.2 uses JDBC for connecting to the database, you might need an ODBC connection for running certain stored processes that impact the database, such as the migration scripts.

To configure the ODBC connection, do the following:

1 From the Windows Start menu, select Settings ➤ Control Panel ➤ Administrative Tools ➤ Data Sources (ODBC). The ODBC Data Source Administrator window appears.
2 Select the **System DSN** tab and then click **Add**. The Create New Data Source window appears.

3 Select the SQL Server Native Client 10.0 driver from the list and then click **Finish**. The SQLServer ODBC Driver Setup window appears.

4 Enter the driver information in the ODBC Driver Setup window. The following example uses **SASDB** as the database name and **SNAUSER** as the database user name. Modify these values appropriately for your system. For example, enter the following:

   a Enter **SASDB** in the **Name** box. The DSN name must be the same as the name of the database that you want to create in Microsoft SQL Server.

   b (Optional) Enter **SAS Social Network Analysis Transactional Schema** in the **Description** box.

   c Enter the database server host name in the **Server** box.

   d Click **Next**.

   e Select the appropriate authentication setting.

   f Enter user name and password information to obtain the default settings. Enter **SNAUSER** in the **User Name** box. Enter a **password** in the **Password** box.

   g Click **Next**.

   h Click **Finish**.

   i Click **OK** to save the driver information and to close the SQLServer ODBC Driver Setup window.

   j Click **OK** to close the ODBC Data Source Administrator window.
Database Pre-installation: PostgreSQL

Configure the PostgreSQL Database for a Multi-Tier Installation

For security reasons, PostgreSQL does not listen on all available IP addresses on the server machine initially. In order to access the server over the network, you must enable listening on the address first.

For PostgreSQL servers version 8.0 and later, this is controlled using the listen_address parameter in the postgresql.conf file. Here, you can enter a list of IP addresses the server should listen on, or simply use * to listen on all available IP addresses.

Optional: Create the PostgreSQL User for SAS Social Network Analysis Server

Before configuring SAS Social Network Analysis Server, you must create a user in PostgreSQL and then create a database owned by that user. The SAS Social Network Analysis Server configuration script assumes that the user's default schema is the same as the user name.

After you have completed the initial installation of SAS Social Network Analysis Server, a database script is provided to enable you to prepare your database and create this user with the appropriate permissions. For more information about this script, see “Preparing Your PostgreSQL Database” on page 49.
Part 3

Installation and Configuration Process

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Overview of Installing SAS Social Network Analysis Server

Note: Before attempting to install and configure SAS Social Network Analysis Server, familiarize yourself with the information in the *SAS Deployment Wizard and SAS Deployment Manager 9.4: User’s Guide*. Use that document in conjunction with the SAS Social Network Analysis installation and configuration tasks that are described in this section.

The SAS Deployment Wizard has two modes:

- install
- configure

Note: It is recommended that you first run the wizard in install mode only. After you have completed additional tasks such as database installation and preparation, you can then run the wizard a second time in configure mode.

SAS Social Network Analysis Server installation includes the installation of various SAS products. During installation, the SAS Deployment Wizard prompts you for the installation and possibly the configuration of each of these SAS products. Some of the products that are installed as part of the SAS Social Network Analysis Server installation include the following:

- SAS Foundation 9.4
- SAS Management Console
- SAS Web Infrastructure Platform

In addition, SAS Social Network Analysis Server is often installed as part of other SAS solutions such as SAS Financial Crimes Monitor or SAS Enterprise GRC. It is recommended that you also review the installation material for these solutions before performing installation and configuration.

**About Single-Tier or Multi-Tier Installation**

You can install SAS Social Network Analysis Server on one or several machines. This choice is determined when you order SAS Social Network Analysis Server and is detailed in the order plan (plan.xml) file. You must first install SAS Social Network Analysis Server on the server-tier machine. You can then install SAS Social Network Analysis Server on other additional machines that are part of a middle tier in your
configuration. For guidelines on installing SAS on multiple machines, see “Installation Order Rules for Multiple Machine Deployments” in the *SAS Intelligence Platform: Installation and Configuration Guide*.

The server tier consists of a set of SAS servers that are installed as a part of SAS Intelligence Platform. These servers host (and can be used to load) the social network data. In addition, they execute SAS processes. The SAS Workspace Server, SAS Stored Process Server, and SAS Metadata Server enable this capability.

The middle tier hosts the web application, which is deployed on a Java web application server. The web application sends data to and receives data from the web browsers on the client tier. It then organizes the data for storage on the data tier and for use on the server tier.

The client tier enables users to perform day-to-day tasks through the web application.

**Plan for Deployment**

The SAS Deployment Wizard is used to install and configure the SAS software and related products that are included in your deployment plan file. When you execute the SAS Deployment Wizard, you select the deployment type that you are performing. You can choose to install and configure the software in the same instance, or you can install the software first and then configure the software later. It is recommended that you first install the software and then configure the software later. This enables you to test the SAS license and perform database preparation and additional testing in SAS before the configuration step.

Depending on your specific deployment plan and the SAS products that you are installing, the SAS Deployment Wizard can prompt you to perform a variety of tasks, including the following items:

- specify your order plan and SAS software products that you are installing and configuring
- specify third-party products that you have installed
- specify any required machine information
- specify server information for any SAS servers that you are installing
specify user account information

specify database connection information

install the server tier for SAS Social Network Analysis Server on the server machine in your configuration

install the middle tier for SAS Social Network Analysis Server on other machines in your configuration


---

**Running the SAS Deployment Wizard in Install Mode**

It is recommended that you run the SAS Deployment Wizard in install mode and configure the software after you have completed additional tasks such as installing and preparing your databases.

To begin the installation process, launch the SAS Deployment Wizard.

**Note:** Depending on your installation package and operating system, some additional installation pages might appear.

To install SAS Social Network Analysis Server on each machine (Windows or UNIX):

1. Log on to the machine.
   - (Windows) Log on as any user who is in the Administrators group.
   - (UNIX) Log on as a SAS user (for example, sas) that you defined in the SAS Intelligence Platform pre-installation tasks.

   **Note:** It is recommended that you do not log on as root to perform an installation on a UNIX system.
2  Start the SAS Deployment Wizard from your SAS Software Depot. On a Windows system, double-click the setup.exe file. On a UNIX system, execute the setup.sh file. These files are located in your SAS Software Depot folder.

*Figure 4.1  SAS Deployment Wizard Splash Page*

![SAS Deployment Wizard Splash Page](image)

**Note:** You download the SAS Software Depot using the SAS Download Manager. Information about how to download and install the SAS Download Manager is provided in your SAS Software Order e-mail.

3  Select your installation language in the Choose Language dialog box, and click **OK**.

4  After the SAS Deployment Wizard opens, enter the following information about each page:

   a  **Select Deployment Task** page. Select **Install SAS software**, and then click **Next**.

   b  **Specify SAS Home** page. Specify the full path where the software is to be installed. This location is your `SAS-installation-directory` value.

   c  **Select Deployment Type** page. Select **Perform a Planned Deployment**, and then select **Install SAS Software**. Do not select **Configure SAS Software**.

The following figure shows the wizard with only the install mode enabled.
Click **Next**.

**Note:** You typically do not want to configure the software at the same time. This is because you must already have created and properly prepared a database. If you already have a database that is created and prepared, you can select to configure the software at the same time you install the software. Separately installing and configuring the software also applies to migration scenarios. In migration scenarios, you install the software, perform additional migration tasks, prepare databases (using the provided database scripts as needed), and then run the SAS Deployment Wizard again to configure the software.

**Specify Deployment Plan** page. Select **Specify the full path to a customized deployment plan**. This is the plan.xml file. Click **Next**.
Note: The plan.xml file is generated by the SAS Planning Application. It is included with the pre-installation checklist for your software order. For more information, refer to the QuickStart Guide: SAS 9.4 Planned Deployments using Electronic Software Delivery at http://support.sas.com/documentation/installcenter/en/ikqsgplanesd/66210/PDF/default/quickstart.pdf.

- Select Products to Install page. Select a Machine option (for single server, select Server, Middle Tier, and Clients) and click Next.

- Specify SAS Installation Data File page. Specify the path to your SID file. By default, the SID file is located in the SAS Software Depot under the sid_files folder. Click Next.

- Select Language Support page. Select the languages that you would like to install for the products listed. Only those languages that work with your locale are installed. Click Next.

- The SAS Deployment Wizard next loads installation packages and checks the file system to ensure that the installation can proceed. When this step completes, click Next.

- Deployment Summary page. Review the software that you are deploying, and click Start to begin installation.

- Provided no errors occur during the installation, the Deployment Complete page appears. Click Next.

- Additional Resources page. Click on the links as needed for additional deployment resources. Click Finish.

After you have completed the installation procedure, you must prepare and configure your database for installation. After you have prepared and configured your database, you can then launch the SAS Deployment Wizard a second time to configure the software. See the following chapters for more information about these tasks.

Applying SAS Hotfix Updates

After completing the installation, apply any hotfixes required for all SAS components listed in your order. The SAS 9.4 hotfix download is found at the following website: http://ftp.sas.com/techsup/download/hotfix/hotfix.html.
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Preparing Your Database

Overview of Preparing Your Database for SAS Social Network Analysis Server

Before you begin the SAS Social Network Analysis Server configuration, you must prepare the SAS Social Network Analysis database. Database preparation varies by database, but for each database, this typically requires creating a schema, creating workspaces, and assigning rights to the database user or owner. When you install SAS Social Network Analysis Server, the solution contains scripts that can be used to prepare the databases for configuration. The process of running scripts to prepare the database should be performed after the installation of SAS Social Network Analysis but before the configuration of SAS Social Network Analysis Server.

You can run the PrepareDatabase script for your database solution to prepare your databases. The tasks that these scripts perform vary by database. For more information about running the PrepareDatabase script for each database, see the following section specific to the database that you have installed. Where it applies, the PrepareDatabase scripts use the value that you supply for the user name to create the schema.

If you are migrating from the previous release, you can use a copy of the database that you used with the previous release and run an update script. For more information, see Appendix 1, “Migration and Update Tasks,” on page 87.

The following sections provide information about preparing and initializing databases and schemas for those databases supported in SAS Social Network Analysis Server, including required products where applicable.
(UNIX) Set Execute Permissions on Shell Script Files

On UNIX systems, before you run the database preparation scripts that are provided, you should verify that the files are executable. If they are not, then you must set the Execute permission on these shell script files. For example, you can set this permission at the command line using the following command:

```
chmod +x *.sh
```

Test the Connection to Your Database

Where applicable, execute a command from the terminal to verify that your database system is set up. For example, if you are using an Oracle database, you can execute the following command on a database client using SQL*Plus:

```
sqlplus DBAUSER/DBAPASSWORD@ORACLE_SERVICENAME
```

In the preceding command, `DBAUSER`, `DBAPASSWORD`, and `ORACLE_SERVICENAME` correspond to the database administrator, database administrator password, and Oracle service name.

If you are able to execute a database command such as this only from the database installation directory, then verify that the PATH variable is set up correctly. The database client application must be installed and available on the PATH.

About the Database Preparation Scripts

When you run the installation, the `SAS-installation-directory` is populated. In the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript` directory, there are database-specific subdirectories that include scripts for the following databases:

- Oracle
- PostgreSQL (third-party database)
DB2

SQL Server

The scripts within these subdirectories assume that an appropriate database client application is installed and included in your operating system’s PATH environment variable. For more information, see “Installing a Database Client” on page 25. No other databases are supported.

For each database type, a script called PrepareDatabase performs tasks that make the database ready for configuration. These tasks vary by database, but include the following:

- creating database users
- assigning permissions to database users
- creating databases
- creating and configuring tablespaces
- creating, loading, and configuring database schemas

It is recommended that you review the scripts specific to your database to ensure that you have not already performed certain tasks and to ensure that you meet the software requirements. For example, the PrepareDatabase script might contain tablespace size constraints that must be met to ensure the proper functioning of SAS Social Network Analysis Server.

If you have already configured a database for SAS Social Network Analysis Server using the PrepareDatabase script, then you do not need to run the PrepareDatabase script again. Details for running the script on the databases that are supported by SAS Social Network Analysis Server are listed in the following sections.

You do not need to run PrepareDatabase if you already have a SAS Social Network Analysis database that you are migrating to SAS Social Network Analysis 6.2. For more information, see Appendix 1, “Migration and Update Tasks,” on page 87.

When executing a database-specific script, you must do the following:
Supply the applicable database credentials as well as information about the database, such as the database name, schema name, or service name. These commands vary by database type.

Add the .sh extension to the script on UNIX systems, if applicable.

You can access help for the database script by running it without any arguments.

Preparing Your Oracle Database

Oracle: Customizing the Database Preparation Script

You should consult your Oracle database administrator to learn about any site customizations that you should make to the PrepareDatabase script before proceeding. For example, the sample PrepareDatabase script creates two table spaces, one for tables and one for indexes. However, some sites might prefer to use a single table space for both tables and indexes. Also, the sample version assigns a newly created user a password that is identical to the user name. It is recommended that you work with your database administrator to customize this script for your site.

Oracle: Run the Database Preparation Script

Executing the PrepareDatabase script creates a new schema. The script assumes that you have already created a database in Oracle.

Note that the Oracle version of PrepareDatabase has two required arguments:

- an administrative user with privileges to create a new schema
- the schema name that you want to use to access the Oracle database

To execute PrepareDatabase for an Oracle schema:

dbscript/oracle on UNIX) to the database machine as needed. Alternatively, you can use the SQL*Plus client to connect to the Oracle database and create the database schemas. For a connection that uses the SQL*Plus client, an appropriate entry is required in the tnsnames.ora file for the Oracle RDBMS machine that you are connecting to.

**Note:** If you installed the SAS Social Network Analysis Server administrative tools on Windows, then the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\oracle` directory contains only .cmd versions of the database scripts. If your database is installed on UNIX, then you must use a copy of the scripts with an appropriate .sh file extension on the database machine. Appropriate operating system-specific versions of these scripts are located on the machine where you installed SAS Social Network Analysis Server in the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\oracle` directory.

2. Open a command prompt, and navigate to the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\oracle` directory.

3. Run the PrepareDatabase script for your operating system:
   - (UNIX) `./PrepareDatabase.sh sysdba/dbapassword@servicename schemaname`
   - (Windows) `\PrepareDatabase sysdba/dbapassword@servicename schemaname`

   It is recommended that you include the password in the command to avoid having to enter it several times.

For example, assume that you want to create the following schema. This example assumes that you have created an administrative user named dbmsowner with permissions to create a new schema.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>sysdba</td>
<td>dbmsowner</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
</tr>
<tr>
<td>---------------</td>
<td>------------</td>
</tr>
<tr>
<td>dbapassword</td>
<td>sasdbaPW1</td>
</tr>
<tr>
<td>servicename</td>
<td>localdb</td>
</tr>
<tr>
<td>schemaname</td>
<td>snadb</td>
</tr>
</tbody>
</table>

The PrepareDatabase script should be run as follows in Windows:
```
\PrepareDatabase dbmsowner/sasdbaPW1@localdb snadb
```

The schemaname can be the same as the username. When you run this command, the initial password for the new schema is the same as the schemaname that you created.

After the PrepareDatabase script has run, you must specify a different password for the new schema. Do one of the following:

- Use the alter user command in SQL. For example, use the following:
  ```sql
  alter user <username> identified by <new password>;
  ```

- Change the password for the user in Oracle Enterprise Management Console.

After you execute PrepareDatabase, your new schema is created, but it does not contain any tables. You must populate this schema with the SAS Social Network Analysis Server tables, indexes, and views. For more information about using a script to initialize the schema for Oracle, see “Database Configuration Overview” on page 57.

---

### Preparing Your PostgreSQL Database

### PostgreSQL: Customizing the Database Preparation Script

You should consult your local PostgreSQL database administrator to learn about any site customizations that you should make before proceeding. In some cases, you can
make the necessary customizations either by editing the script files for PrepareDatabase or by specifying options when using these commands.

For example, you might want to make the following customizations:

- Change the user name. By default, the scripts create a user named test. You should change the user name to a value that is appropriate.
- Change the name of the database host name. The scripts assume that the name of the PostgreSQL host is localhost.
- Change the default port value. The scripts expect that the database server is running on the default port, 5432.

You can also use the options -U, -h, or -p to specify an alternative user name, remote host, and port. These options and their assigned values should all precede the database name. For more information, see “PostgreSQL: Run the Database Preparation Script” on page 51.

**PostgreSQL: Update the Character Set Encoding**

If you are using PostgreSQL on Windows for double-byte character languages such as Japanese, Chinese, or Korean, then you might need to update the character set encoding value that is used in PrepareDatabase.

For example, to specify a character set encoding to use the extended UNIX code for the Korean language, do the following:

1. Open the PrepareDatabase script in a text editor. This file is located in the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\postgres` directory on Windows and `SAS-installation-directory/SASFoundation/9.4/misc/snamsa/sample/dbscript/postgres` on UNIX.

2. Change the `-E UNICODE` option to `-E EUC_KR`. 
PostgreSQL: Run the Database Preparation Script

Run the PrepareDatabase script to create the new database. The PostgreSQL version of this script requires the following arguments:

- the database name
- the new database user name’s password
- the name of the database administrator

Other values are created by default according to the script unless you specify otherwise.

If the connection to the database requires a password, PostgreSQL prompts for the password unless there is a pgpass.conf file defined on your system.

**Note:** For example, on Windows, the pgpass.conf file is located in the `%USERPROFILE%\Local Settings\%APPDATA%\postgresql` directory. For more information about using this file, see the PostgreSQL documentation at [http://www.postgresql.org/docs/9.1/interactive/libpq-pgpass.html](http://www.postgresql.org/docs/9.1/interactive/libpq-pgpass.html).

PrepareDatabase uses `test` for the default user name of the new database. It is recommended that you use the `-U` option to specify this value.

If you are using PostgreSQL on Windows for double-byte character languages such as Japanese, Chinese, or Korean, you can update the PrepareDatabase script before running it to specify an appropriate character set encoding. For more information, see “PostgreSQL: Update the Character Set Encoding” on page 50.

To execute PrepareDatabase for a PostgreSQL database with the default values:

1. Open a command prompt, and navigate to the following directory:

   - (UNIX) – `SAS-installation-directory/SASFoundation/9.4/misc/sasmisc/sample/dbscript/postgres`
   - (Windows) – `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\postgres`
2 Run PrepareDatabase with options as follows:

- (UNIX) `. /PrepareDatabase.sh -U username -h hostname -p port database sysdba password`
- (Windows) `. \PrepareDatabase -U username -h hostname -p port database sysdba password`

Here are the specifications:

- **username** is the new database user that you are creating. The default value is **test**. This is also the name of the schema created for the database by the script.
- **hostname** is the host name for the PostgreSQL server. The default value provided is **localhost**.
- **port** is the port for the PostgreSQL server. The default value is **5432**.
- **database** is the name of the database that you are creating.
- **sysdba** is the name of a database administrator.
- **password** is the value of the password for the new database user that you are creating.

For example, assume that you want to create the following database. This example assumes that you have a database administrator named dbmsowner.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>username</td>
<td>snadb</td>
</tr>
<tr>
<td>hostname</td>
<td>localhost</td>
</tr>
<tr>
<td>port</td>
<td>5432</td>
</tr>
<tr>
<td>database</td>
<td>snadb</td>
</tr>
<tr>
<td>sysdba</td>
<td>dbmsowner</td>
</tr>
<tr>
<td>password</td>
<td>SNAAdminPW1</td>
</tr>
</tbody>
</table>
For the preceding example, the PrepareDatabase script should be run as follows in Windows:

```
.\PrepareDatabase -U snadb -h localhost -p 5432 snadb dbmsowner SNAAdminPW1
```

After you execute the PrepareDatabase script, if you have not set up a pgpass.conf file, you will be prompted for the sysdba password first (whatever password you created for `dbmsowner`). Next, the script will prompt you three times for the password that you set up for the `snadb` username (in this example, `SNAAdminPW1`).

After PrepareDatabase runs, your new database is created, but it does not contain any tables. You must run a script to populate this database with the SAS Social Network Analysis Server tables, indexes, and views. For more information about using this script for PostgreSQL, see “Database Configuration Overview” on page 57.

---

### Preparing Your DB2 Database

#### DB2: Customizing the Database Preparation Script

You should consult your local DB2 database administrator to learn about any site customizations that you should make before proceeding. In some cases, you can make the necessary customizations either by editing the script files for PrepareDatabase or by specifying options when using these commands.

The DB2 scripts assume the following:

- An operating system account exists for the database user name that you want to specify in the SAS Deployment Wizard.
- The user that runs the scripts has appropriate access in DB2 to create the database. For example, this user must be a member of the DB2ADMINS group.
- The DB2 PrepareDatabase script for SAS Social Network Analysis Server is executed on the database machine. You cannot run this script remotely from another machine. All other scripts are run from the machine where the SAS Social Network
Analysis Server administrative tools are installed. For more information about adding the scripts to the database machine, see the following section.

**DB2: Run the Database Preparation Script**

Run the PrepareDatabase script to create the new database.

You must run the DB2 database scripts for SAS Social Network Analysis Server on the database machine. You cannot run these scripts remotely from another machine. If the SAS Social Network Analysis Server administrative tools are not installed on the database machine, then do the following:

1. Copy all files in the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\db2` directory to the database machine.

   **Note:** If you installed the SAS Social Network Analysis Server administrative tools on Windows, then the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\db2` directory contains only .cmd versions of the database scripts. If your database is installed on UNIX, then you must use a copy of the scripts with an appropriate .sh file extension on the database machine. Appropriate operating system-specific versions of these scripts are located on the machine where you installed the SAS Social Network Analysis Server administrative tools in the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\db2` directory.

2. Assign appropriate permissions to these files.

3. Run the PrepareDatabase script.

To execute PrepareDatabase for a DB2 database:

1. Open a command prompt, and navigate to the database scripts on the database machine. For example, if you have installed the SAS Social Network Analysis Server administrative tools on the database machine, you can locate the scripts in the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\db2` directory.
2 Run the PrepareDatabase script for your operating system:

- (UNIX) 
  ```
  /PrepareDatabase.sh database username
  ```
- (Windows) 
  ```
  \PrepareDatabase database username
  ```

After you execute PrepareDatabase, your new database is created, but it does not contain any tables. You must run a script to populate this database with the SAS Social Network Analysis Server tables, indexes, and views. For more information about using this script for DB2, see “Database Configuration Overview” on page 57.

### Preparing Your SQL Server Database

#### Customizing the SQL Server Database Preparation Script

You should consult your local SQL Server database administrator to learn about any site customizations that you should make before proceeding. In some cases, you can make the necessary customizations either by editing the script files for PrepareDatabase or by specifying options when using these commands.

The SQL Server scripts assume the following:

- The SAS Social Network Analysis Server database has already been created.
- The user that runs the script has access to the SQL Server system administrator user name and password, which is passed into the database scripts.

#### Run the SQL Server Database Preparation Script

Run the PrepareDatabase script to create and configure your database user. The script assumes that you have already created a database in SQL Server.
1 Copy all files in the **SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\sqlserver** directory to the database machine.

2 Assign appropriate permissions to these files.

3 Run the PrepareDatabase script.

To execute PrepareDatabase for a SQL Server database with the default values:

1 Open a command prompt, and navigate to the **SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript\sqlserver** directory.

2 Run the PrepareDatabase script: .\PrepareDatabase -U sysdba -P dbapassword -h hostname database username

Here are the specifications:

- **sysdba** is the name of a database administrator (for example, the sa user).
- **dbapassword** is the value of the database administrator’s password.
- **hostname** is the host name for the database server.
- **database** is the name of the database that you are using.
- **username** is the new database user that you are creating.

For example, assume that you want to create the following database. This example assumes that you have a database administrator named dbmsowner.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>sysdba</td>
<td>dbmsowner</td>
</tr>
<tr>
<td>dbapassword</td>
<td>SNAAdminPW1</td>
</tr>
<tr>
<td>hostname</td>
<td>localhost</td>
</tr>
<tr>
<td>username</td>
<td>snadb</td>
</tr>
</tbody>
</table>
For the preceding example, the PrepareDatabase script should be run as follows in Windows:

```
.\PrepareDatabase -U dbmsowner -P SNAAdminPW1 -h localhost snadb
```

After you execute PrepareDatabase, your new database is created, but it does not contain any tables. You must run a script to populate this database with the SAS Social Network Analysis Server tables, indexes, and views. For more information about using this script for SQL Server, see “Database Configuration Overview” on page 57.

---

**Database Configuration Overview**

This section describes the process for creating tables to allow the proper operation of SAS Social Network Analysis Server. During database installation and preparation, database schemas and database users were defined. These databases and users must be created. If necessary, work with the Database Administrator to ensure that these tasks have been completed. See “Preparing Your Database” on page 44 for more information about preparing the database for SAS Social Network Analysis Server.

To continue with the table creation procedure in the following section, make sure you have the following information:

- SAS Social Network Analysis Server Database User account details
- SAS Social Network Analysis Server Schema details, if necessary
- Database details (host name, port, and so on)
Creating Database Tables

SAS Social Network Analysis Server Tables and Sequences

Before proceeding, ensure that you have prepared your database as indicated in “Preparing Your Database” on page 44.

SAS provides a set of scripts, based on database type, to create the tables and sequences required by SAS Social Network Analysis Server.

When performing an initial installation (not an upgrade), run the appropriate script for the database used at your site.

Table 5.1  SAS Social Network Analysis Server Tables and Sequences

<table>
<thead>
<tr>
<th>Database Type</th>
<th>Create Table Script</th>
<th>Drop Table Script</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle</td>
<td>sna_create_oracle.sql</td>
<td>sna_drop_oracle.sql</td>
</tr>
<tr>
<td>PostgreSQL</td>
<td>sna_create_postgres.sql</td>
<td>sna_drop_postgres.sql</td>
</tr>
<tr>
<td>IBM DB2</td>
<td>sna_create_db2.sql</td>
<td>sna_drop_db2.sql</td>
</tr>
<tr>
<td>Microsoft SQL Server</td>
<td>sna_create_sqlserver.sql</td>
<td>sna_drop_sqlserver.sql</td>
</tr>
</tbody>
</table>

These database scripts are available for each supported database in the following location:

- **Windows:**
  
  `SAS-installation-directory\snamva\sasmisc\dbmsc\ddl\`

- **UNIX:**
  
  `SAS-installation-directory/misc/snamva/dbmsc/ddl/`
After installation and before configuration, ensure that your DBA runs the appropriate DDL script to create the tables and other database objects for SAS Social Network Analysis Server. Depending on how the DDL script is executed, the database objects could be put in a default schema (dbo) instead of the intended schema. This can occur because the DDL script is not explicit about which schema to add the content to.

If the person performing configuration later sets the schema name to the correct database schema (for example, SNADB), the deployment will fail because the objects have been assigned to dbo.

To avoid encountering this issue, the statement “CREATE TABLE SNA_CONTEXT_PREFERENCE . . . .” in the DDL script should be changed to “CREATE TABLE SNADB.SNA_CONTEXT_PREFERENCE . . . .“, where SNADB is the intended schema name.
Run the SAS Deployment Wizard in Configure Mode

To begin the configuration process, launch the SAS Deployment Wizard. The following section describes the wizard pages in the SAS Social Network Analysis Server configuration process.

Note: During this process, a number of windows appear for configuring other supporting software. Information about the configuration settings for SAS Intelligence Platform is beyond the scope of this guide. For more information about these settings, click Help in the SAS Deployment Wizard, or see the SAS Intelligence Platform documentation at http://support.sas.com/documentation/onlinedoc/intellplatform. For information about entering SAS Deployment Wizard information for other solutions, see the applicable solution documentation.

To configure SAS Social Network Analysis Server on each machine (Windows or UNIX):

1. Log on to the machine.
   - (Windows) Log on as any user who is in the Administrators group.
(UNIX) Log on as a SAS user (for example, sas) that you defined in the SAS Intelligence Platform pre-installation tasks.

**Note:** It is recommended that you do not log on as root to perform configuration on a UNIX system.

2 Start the SAS Deployment Wizard from your SAS Software Depot. On a Windows system, double-click the setup.exe file. On a UNIX system, execute the setup.sh file. These files are located in your SAS Software Depot folder.

![Figure 6.1 SAS Deployment Wizard Splash Page](image)

3 Select your installation language in the Choose Language dialog box, and click **OK**.

4 After the SAS Deployment Wizard opens, enter the following information about each page:

   a  **Select Deployment Task** page. Select **Install SAS software**, and then click **Next**.

   b  **Select Deployment Type** page. Select **Perform a Planned Deployment**, and then select only **Configure SAS Software**. Do not select **Install SAS Software**. Click **Next**.

      The following figure shows the wizard with only the configure mode enabled.
Figure 6.2  SAS Deployment Wizard: Configure SAS Software

Click **Next**.

c  **Select Deployment Step** page. Select a **Deployment Step** from your deployment plan. Click **Next**.

d  **Checking System** page. This page shows that the tooling initialization has already completed. Click **Next**.

e  **Select Configuration Prompting Level** page. Select **Typical** to display the basic set of configuration settings. For fewer options, select **Express**. For more granular configuration options, select **Custom**. To configure SAS Social Network Analysis Server, the **Typical** setting is recommended. Click **Next**.

**Note:** For more information about the prompting levels, see "Interactive Prompting Levels" in the SAS 9.4 Intelligence Platform: Installation and...

f  Specify Configuration Information page. This step creates your software’s configuration directory. The SAS Deployment Wizard allocates up to 10 configuration levels. The default settings create a level 1 configuration. For example, on a Windows system, this is \SAS\Config\Lev1. If you create a level 2 configuration, then the default Windows location for it is \SAS\Config\Lev2. Click Next.

g  Local Machine Name page. Type appropriate names into the Fully-qualified Local Host Name field and the Short Local Host Name field. Click Next.

h  Select a migration option. Do one of the following:

- If you are not migrating from the previous release, then do not select Perform migration. Click Next.

- If you are migrating from the previous release, do not continue with the remaining installation and configuration steps until you review the migration information for SAS Social Network Analysis Server. For more information, see Appendix 1, “Migration and Update Tasks,” on page 87.

i  In the Anonymous Web Access page, clear the option to enable this access. The following figure shows the Anonymous Web Access page.

*Figure 6.3  Anonymous Web Access*
If you select this option, the web services and stored processes that are used in SAS Social Network Analysis Server will not require authenticated credentials. If you do not select this option, then all requests for the web services and stored processes will require credentials. Requiring credentials creates a more secure deployment.

SAS Social Network Analysis Server does not require anonymous web access, and it is recommended that you do not enable it. If other SAS solutions deployed on the same server require anonymous web access, install those solutions on a different machine. For more information about anonymous web access, see SAS Intelligence Platform: Installation and Configuration Guide.

In the **Web Application Server: Eighth Server Configuration** page, enter a server name. SAS Social Network Analysis Server is configured on the eighth managed server for your web application server. The following figure shows this page.
Review the logical name for your managed server in the **Server Name** field. This value appears in your application server administrative console and is used in administrative scripting. The default value is `SASServer8`. It is recommended you keep the default value. Click **Next**.

**k** Review the port information on the **Web Application Server: Server Ports** page. The options that you can enter vary depending on your web application server.

**l** **SAS Social Network Analysis Mid-Tier Database Configuration** page. Select your **Database Type** and the fully qualified host name for your database in the **Host Name** field and click **Next**.

**m** **SAS Social Network Analysis Mid-Tier Database JDBC Properties** page. Enter the **Database Name**, **Port**, and **Path to the JDBC driver JAR file**.
For installations using Oracle, provide the service name in the **Database Name** field.

If you are using DB2, you must also provide a **Path to License JAR file**.

If you are using PostgreSQL, the JDBC driver is located in the `\SAS-installation-directory\SASWebInfrastructureDataBaseJDBCDrivers\9.4\Driver` directory.

n **SAS Social Network Analysis Mid-Tier Database User** page. The **User ID** field is populated with a default value. Specify values in the **Schema Name**, **User ID**, **Password**, and **Confirm Password** fields. Click **Next**.

**Note:** The SAS Deployment Wizard checks the JDBC connection with the supplied credentials and generates a warning if the connection cannot be made to the database. If a database connection cannot be established, the web application will not properly deploy.

o Upon completion of your deployment configuration, the **Deployment Summary** page appears. Review the software deployment that you have selected and click **Start** to begin the configuration and deployment process.

5 The SAS Deployment Wizard indicates that the installation and configuration of your SAS software is complete on the **Deployment Complete** page. Each software component should have a check mark next to it in the list.

Click **Next**.

6 **Additional Resources** page. Review the Instructions.html file. If a software component is not successfully installed and configured, this file provides guidance about how to fix the problem. Instructions.html is saved to your configuration folder during deployment (for example, `C:\SAS\Config\Lev1\Documents\Instructions.html`). You can also view the list of links for additional resources about your deployment. As an option, you can print the list of links for later reference. Click **Finish** to exit the SAS Deployment Wizard.

7 Complete the post-installation tasks for SAS Social Network Analysis Server. For more information, see Chapter 8, “Performing Post-installation Steps for SAS Social Network Analysis Server,” on page 73.
CAUTION! You must complete the post-installation instructions for each installed and configured solution before using SAS Social Network Analysis Server. Failure to do so can cause unpredictable results.
Part 4

Post-installation Tasks

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Performing Post-installation Steps for SAS 9.4

Post-installation Configuration for SAS 9.4

**Note:** If you did not purchase a full version of SAS Social Network Analysis, you will not have the Template.spk file. Therefore, you can skip Chapter 7 and Chapter 8.

Perform the post-installation steps for your operating system as indicated in Table 7.1 on page 71.

**Table 7.1  SAS 9.4 Configuration References**

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Document</th>
<th>URL</th>
</tr>
</thead>
</table>
Performing Post-installation Steps for SAS Social Network Analysis Server

Purpose of Post-installation Procedures for SAS Social Network Analysis Server

Importing SAS Stored Processes and Deploying Web Services
- Overview
- Import SAS Stored Processes from a SAS Package
- Deploy the Imported SAS Stored Processes as a Web Service

Adding Investigators

Additional References for SAS Social Network Analysis Server

Purpose of Post-installation Procedures for SAS Social Network Analysis Server

After you have installed and configured SAS Social Network Analysis Server, administrators and analysts must create an environment consistent with the needs of the business user. By default, no data for this environment has been created. The purpose of this chapter is to set up a sample template so that a user can work with the
SAS Social Network Analysis Server demonstration data. When you are ready, you can run these steps again using custom stored processes in order to test with your own data.

The procedures outlined in the following sections include setting up SAS Social Network Analysis Server with sample content provided by SAS. Instructions are also provided to enable you to define users and groups that can be created to access the sample content.

The following procedures are described in this section:

- importing SAS Stored Processes from a SAS package
- deploying the imported SAS Stored Process as a web service
- initializing users and groups

The users and groups defined in this section are created specifically to perform the following actions:

- access the provided sample content
- log on to SAS Social Network Analysis Server

This section assumes you have the appropriate administrative privileges to perform these tasks.

**Importing SAS Stored Processes and Deploying Web Services**

**Overview**

SAS Stored Processes are deployed as web services, and SAS Social Network Analysis Server displays the networks and alerts that are read by the SAS Stored Processes.
Import SAS Stored Processes from a SAS Package

SAS provides template SAS Stored Process metadata in a SAS package file. To import a template SAS package, perform the following steps:

1. Log on to SAS Management Console as an administrator.

2. Using SAS Management Console, click the Folders tab and navigate to /System/Applications/SAS Social Network Analysis/Social Network Analysis 6.2.

3. Right-click the Social Network Analysis 6.2 folder and select Import SAS Package.
Figure 8.1 Import SAS Package

4 Select the **Browse** button and navigate to the location of the template SAS package file:

**UNIX Specifics:** `!SASROOT/misc/snамva/Template.spk`

**Windows Specifics:** `!SASROOT\snамва\sasmisc\Template.spk`

a Ensure that the **Include access controls** check box is **not** selected.

b Select **Next**.

5 At the **Select Objects to Import** page, make sure each stored process is selected.
Click **Next** to continue.

**Note:** You might be presented with an Import Warning dialog box. This dialog box displays a caution message regarding not importing entries and associations related to access control entries (ACEs) or an access control template (ACT). Click **Yes** to continue. Your installation continues without an error related to this warning.

6 Select **Next** on the **About Metadata Connections** page.

7 Select **SASApp** as the target application server on the **SAS Application Servers** page, and then click **Next**. If you selected a SAS Server context name other than SASApp, select that name.
8 Select Add on the Source Code Repositories page, and provide the directory name:

UNIX Specifics: \SASROOT\sasstp\snamva

Windows Specifics: \SASROOT\namva\sasstp

9 Use the Target menu to select the directory that was just added, and then click Next.

10 Review the Summary page, and then click Next.

11 Confirm that the import process completed successfully, and then click Finish.

Deploy the Imported SAS Stored Processes as a Web Service

After the SAS package file is imported, metadata is associated with the SAS program code for the stored processes in the SAS installation directory. However, to take advantage of these stored processes in the user interface, you must deploy them a web service. Each web service can contain one or more stored processes.

The code for these stored processes can later be modified at any time to configure the display of alerts and social networks on the investigator user interface without requiring redeployment of the web service.

The template example uses two web services, TemplateAlerts and TemplateSocialNetworkAnalysis. To deploy these two web services, follow these steps:

1 Log on to SAS Management Console as an administrator.

2 Use the Folders tab of SAS Management Console to navigate to the folder that was just imported to the /System/Applications/SAS Social Network Analysis/Social Network Analysis 6.2 folder.
3 Select the **Template** folder, unless it has been renamed. If the folder has been renamed, select the renamed folder. The stored process icons appear in the right pane.

4 Deploy the alerts-related web service. Hold down the Ctrl key and click to select the following stored process icons:

- `getActionableEntities`
- `getChartSeries`
- `getAlertTransactions`
- `getSubAlerts`
- `processAlertResponse`

5 Right-click one of the selected icons and select **Deploy As Web Service**.

The **Deploy As Web Service** wizard starts.

6 On the **Web Service Information** page, confirm or set the following values:

- Select the default value for **Web Service Maker URL** from the menu.
- Make sure that **New Web Service Name** is set to the value of **TemplateAlerts**. However, if the folder was renamed to a value such as **Healthcare**, then the **New Web Service Name** must be **HealthcareAlerts**.

  **Note:** The web service name is case sensitive. That is, if the **Template** folder was renamed **Healthcare**, then the new web service name must be **HealthcareAlerts**. However, if the **Template** folder was renamed **healthcare**, then the new web service name must be **healthcareAlerts**.

- The choice of credentials to use does not matter.

  Click **Next**.

7 On the **Web Service Keywords and Namespace** page, provide the following value for the **Namespace** field:

http://sas.com/sso/fraud/alerts
Click **Next**.

8 Confirm the settings and then click **Finish**.

9 Deploy the social network-related web service. Hold down the Ctrl key and click to select the following stored process icons:
   - `getSocialNetwork`
   - `getSocialNetworkNodeDetails`
   - `growSocialNetworkNode`

10 Right-click one of the selected icons and select **Deploy As Web Service**.
    The Deploy As Web Service Wizard starts.

11 On the **Web Service Information** page, confirm or set the following values:
   - Select a value for **Web Service Maker URL** from the menu.
   - Make sure that **New Web Service Name** is set to the value of `TemplateSocialNetworkAnalysis`. However, if the folder was renamed to a value such as `Healthcare`, then the **New Web Service Name** must be `HealthcareSocialNetworkAnalysis`.

   **Note:** The web service name is case sensitive. That is, if the Template folder was renamed `Healthcare`, then the new web service name must be `HealthcareSocialNetworkAnalysis`. However, if the Template folder was renamed `healthcare`, then the new web service name must be `healthcareSocialNetworkAnalysis`.

   - The choice of credentials to use does not matter.
    
    Click **Next**.

12 On the **Web Service Keywords and Namespace** page, provide the following value for the **Namespace** field:

   http://sas.com/sso/fraud/sna
    
    Click **Next**.
13 Confirm the settings and then click **Finish**.

If the deployment completes successfully, two new web services (*Template*Alerts and *Template*SocialNetworkAnalysis) are deployed. You can confirm successful deployment by reviewing the entries under the Configuration Manager within SAS Application Infrastructure at the BI Web Services for Java 9.4 node.

---

**Adding Investigators**

Access to SAS Social Network Analysis Server is controlled with explicit ReadMetadata permission on a metadata folder. A metadata folder is created when a SAS package file (SPK file) is imported into metadata (or metadata folders can be created through SAS Management Console for each analytic domain). The metadata folder contains metadata for the SAS Stored Processes. Users can be added and removed from an investigator group at any time.

By default, a group called Social Network Analysis Investigator provides access to SAS Social Network Analysis Server. To add investigators, do the following:

1. Click the **Folders** tab and navigate to `/System/Applications/SAS Social Network Analysis/Social Network Analysis 6.2/Template`. If the folder was renamed when the Template.spk file was imported, then the folder name is different.

2. Right-click the folder icon and select **Properties**.

3. Select the **Authorization** tab and click **Add**.
   
   The Add Users and Groups dialog box appears.

4. Select the group name, such as **Social Network Analysis Investigator**, from the list, select the right-arrow icon, and click **OK**. The Add Users and Groups dialog box closes.

5. Select the **Social Network Analysis Investigator** group in the **Users and Groups** list.
6 In the **Effective Permissions** area, confirm that the **ReadMetadata** permission is set to **Grant** and click **OK**.

7 Click the **Plug-ins** tab and use the User Manager plug-in to add investigative users. As each user is added, use the **Groups and Roles** tab to make the user a member of the Social Network Analysis Investigator group.

To validate the installation, navigate to http://server:port/SASSNA to verify that SAS Social Network Analysis Server is working.

Investigative users can belong to more than one investigative group. For example, an investigator can be a member of a group that investigates check fraud and a member of a group that investigates wire fraud. However, when creating and assigning groups, do not nest groups because this might result in unpredictable results.

See “Installation, Configuration, and Post-installation Results” on page 12 for a description of what to expect upon logging on to the solution for the first time.

**Note:** Users in the Social Network Analysis Investigator group are able to access the SAS Social Network Analysis Server through the SAS Visual Analytics Hub.

---

**Additional References for SAS Social Network Analysis Server**

Beyond installation, configuration, and the initial setup of sample data, administrative users must perform a number of administrative tasks to implement customized features. See the **SAS Social Network Analysis Server: Administration Guide** for information about how to do the following:

- enable and customize an Advanced Search window. See “Configuring the Advanced Search Window” in the **SAS Social Network Analysis Server: Administration Guide** for additional information.


define custom tabs and other interface features. See “Customizing Alerts and Alert Details” in the SAS Social Network Analysis Server: Administration Guide for additional information.

specify features of the social network analysis diagram. See “Customizing the Network Viewer and Network Nodes” in the SAS Social Network Analysis Server: Administration Guide for additional information.


For information about managing and triaging alerts and reviewing network relationships, see the SAS Social Network Analysis Server: Investigator Guide.
Appendices

Appendix 1

Migration and Update Tasks
Appendix 1

Migration and Update Tasks

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Overview of Migration and Update

Note: If you are not moving existing content from a previous deployment to the first maintenance release of SAS Social Network Analysis Server 6.2, you can skip this chapter.

There are two options available for moving to a new release of SAS Social Network Analysis Server from a previous release:

- migration

  This option involves the moving of SAS metadata from one instance of the SAS Enterprise BI platform and SAS Social Network Analysis Server to another instance, as part of a new installation. For example, you might be migrating from the first maintenance release of SAS Social Network Analysis Server 3.1 on SAS 9.3 to the first maintenance release of SAS Social Network Analysis Server 6.2 on SAS 9.4.

  This option typically involves new hardware, although migration on the same hardware and operating system might be an option. UNIX operating systems can support multiple `SAS-installation-directory` directories. On Windows operating systems, only one `SAS-installation-directory` directory is supported. Therefore, you must first uninstall the original directory (after performing any required backup steps) and then install the new `SAS-installation-directory` directory.

  For more information about SAS solution migration, see http://support.sas.com/rnd/migration/index.html.

- update

  This option involves updating SAS Social Network Analysis Server from a previous version to a new version on the same supporting platform. This option does not require new hardware and can be performed on the same operating system. You cannot update from versions of SAS Social Network Analysis Server on SAS 9.3 because of the change in the supporting platform (SAS 9.3 versus SAS 9.4). However, you can perform an update if you are updating from SAS Social Network

The following chapter provides details about performing migration and update to the first maintenance release of SAS Social Network Analysis Server 6.2.

Pre-migration Tasks

Overview of Pre-migration Tasks

Migration to the first maintenance release of SAS Social Network Analysis Server 6.2 is supported for the following versions:

- first maintenance release of SAS Social Network Analysis Server 2.3 on SAS 9.3
- first maintenance release of SAS Social Network Analysis Server 3.1 on SAS 9.3
- first maintenance release of SAS Social Network Analysis Server 6.1 or 6.2 on SAS 9.4

A migration to the first maintenance release of SAS Social Network Analysis Server 6.2 on SAS 9.4 is based on a new installation of the latest software available. Accordingly, complete the following pre-installation tasks:

1. Review the pre-installation overview material. For more information, see “Reviewing the Pre-installation Documentation for SAS Social Network Analysis Server” on page 20.

2. Ensure that your environment meets the system requirements for the first maintenance release of SAS Social Network Analysis Server 6.2. For more information, see “Completing Pre-installation Tasks for SAS 9.4” on page 21.

3. SAS Social Network Analysis Server requires a deployment plan. For more information, see “Obtaining a Deployment Plan” on page 22.

4. Download the software that is listed in your software order. For more information, see “Creating a SAS Software Depot and Obtaining a SAS Installation Data (SID) File” on page 23.
5 Ensure that a supported RDBMS is installed and prepared. For more information about installing a database, see “Performing Database Pre-installation Tasks” on page 23. For more information about preparing a database, see “Preparing Your Database” on page 44.

Note: The first maintenance release of SAS Social Network Analysis Server 6.2 does not support the MySQL database. If you have installed a previous version of SAS Social Network Analysis Server on MySQL, you must migrate to a supported database. Migration from MySQL to a supported database is beyond the scope of this guide. Contact your technical support representative for more information about this scenario.

In addition, you should perform the following pre-migration tasks:

- back up your existing SAS Social Network Analysis Server databases
- back up your SAS metadata
- gather SAS Social Network Analysis Server configuration files

The migration assumes that you have done the following in an existing version of SAS Social Network Analysis Server:

- created users on the system
- made customizations (following SAS Social Network Analysis Server customization guidelines)
- customized stored processes (for example, on Windows you can copy and edit the original stored processes in the \SAS-installation-directory\SASFoundation\9.4\snamva\sasstp directory and then change the execution path in metadata)
- created new stored processes for any new organizational requirements
- created new SAS directories under the \SAS-configuration-directory\Lev<num> directory (for storing old files, work in process, and so on)

If you have performed any additional customizations to your system, ensure that you have fully documented these changes.
Pre-migration from SAS Social Network Analysis Server

Back Up Your Existing SAS Social Network Analysis Server Database

Before migrating to the first maintenance release of SAS Social Network Analysis Server 6.2, it is recommended that you apply the latest maintenance release of the current version of your solution and back up your existing SAS Social Network Analysis Server database. You might need to work with your database administrator and plan for this task in advance. Depending on the size of the database, backing up your existing database might take time and requires space on the file system.

Apply the Latest Maintenance Release

You should apply the latest maintenance release of your software before migrating your solution. For example, if you are on SAS Social Network Analysis Server 3.1, ensure that you have upgraded your software to the first maintenance release of SAS Social Network Analysis Server 3.1.

Gather the SAS Social Network Analysis Server Customized Files

You must manually migrate some custom content to the first maintenance release of SAS Social Network Analysis Server 6.2. Other content is migrated automatically by the SAS Migration Utility. It is recommended that you first back up all custom content before proceeding with the migration. To prepare for this migration, gather and review the files that you might have customized in version 2.3 or 3.1.

Gather and review the following files for customizations:

1. Locate the WAR folder where you have made customizations to your deployment. On SAS 9.4 deployments, this folder is located in the $SAS-configuration-directory\Lev<num>\Web\WebAppServer$ directory. (For deployments on SAS 9.3, this location is dependent on the web application server that you are using.)

   For example, on a SAS Social Network Analysis Server 6.1 deployment, you might find these customizations in the $SAS-configuration-directory\Lev<num>$. 

Note: If you have deployed custom functions or custom components to SAS Social Network Analysis Server, they will also reside in this folder.

2 Locate and back up the following:

- any XML files in the root directory
- currencies.properties
- plugins.json
- the src\sna\plugins directory
- any custom network icons in the src\sna\resources\images directory
- any custom labels or properties files that you included in the WEB-INF\classes directory

Note: Any plug-ins from SAS Social Network Analysis Server 2.3 will not work in the new solution, and plug-ins from other versions must be converted to the 6.2 first maintenance release format. However, you should back up these files. In addition, if your solution contains a config.xml file, note that this is no longer used by the solution. The preferences contained within this file can now be set in SAS Management Console. (For more information about setting preferences in SAS Management Console, see “Configuration Manager Properties and Database Entries” in the SAS Social Network Analysis Server: Administration Guide.) Nevertheless, it is recommended that you back up and review this file.

In addition, back up any other files that you have customized in this folder.

3 Review the files to determine whether you have made any customizations.

4 Locate and back up any stored processes related to SAS Social Network Analysis Server that you created or modified.

5 Locate and back up any related directories or folders that you created under the SAS-configuration-directory\Lev<num> directory (for storing old files, work in process, and so on)
SAS Social Network Analysis Server Migration Tasks

Overview

This section describes the process of migrating to the first maintenance release of SAS Social Network Analysis Server 6.2. If you are considering a migration from a release prior to the first maintenance release of SAS Social Network Analysis Server 3.1, contact your technical support representative.

How to Migrate to the first maintenance release of SAS Social Network Analysis Server 6.2 on SAS 9.4

This approach is based on migrating from SAS Social Network Analysis Server to a new installation of the latest software available. Because the first maintenance release of SAS Social Network Analysis Server 6.2 runs on SAS 9.4, this installation should be on a different machine from that used for SAS Social Network Analysis Server on SAS 9.3, where applicable.

To migrate to the first maintenance release of SAS Social Network Analysis Server 6.2:

1. Perform the necessary SAS Social Network Analysis Server pre-migration steps.

2. Perform any additional SAS pre-migration tasks and run the SAS Migration Utility. The SAS Migration Utility is a cross-platform framework and set of SAS product extensions whose primary purpose is to create a package of content from an earlier SAS version and configuration. The SAS Deployment Wizard can then use this package during the installation and configuration of SAS 9.4. The SAS Migration Utility does not modify your existing configuration. For more information about the SAS Migration Utility and performing other pre-migration tasks, see the chapters “Designing Your Migration” and “Performing Pre-migration Tasks” in the SAS 9.4

CAUTION! The migration utility pauses the SAS Content Server when it creates a migration package, so any attempts to use your current SAS system during this period might be unsuccessful. Therefore, you should plan accordingly.

The SAS Migration Utility does not migrate all content. The SAS Migration Utility provides a report that details those items that were migrated. In addition, the SAS Migration Utility enables you to update the SAS Content Server, which includes updates to the SAS Shared Services database, and also migrates most metadata.

To run the SAS Migration Utility, you must specify the following information (in the utility command line or in the smu.properties file):

- the metadata host name and port
- the metadata server user name and password
- the directory where you want the migration package to be created

TIP If this is a multi-tier migration, then this location should be accessible to the source server and middle-tier machines and the target server and middle-tier machines. The SAS installer ID must have permissions to read, write, and lock files at this location as well.

- the SAS Shared Services database user name and password (schema user name and password for Oracle databases)
- information about the SAS Shared Services database drivers and database URLs

The following is an example of a smu.properties file for migrating from SAS 9.3.

```
# The configuration directory the migration utility will read from. This should usually be the "Lev" directory. It will usually contain a SASMain, Data and product directories.
SMU.config.dir=C:\\SAS\\Config\\Lev1
```
# The directory containing the SAS executable.
# SMU.SASROOT=C:\\Program Files\\SAS\\SASFoundation\\9.3

# The directory that is the install base of
# the SAS product set
# SMU.SASHOME=C:\\Program Files\\SASHome

# The metadata server host. This must be defined for
# the migration utility to run successfully. The
# port defaults to 8561. If a different metadata
# port was used, this must be set to the correct port.
# SMU.host.metadata=localhost
SMU.port.metadata=8561

# The metadata server administrative user and password.
# This must be an unrestricted user so all data can be
# read for metadata extraction. The password should be
# encoded using the {sas001} method. Use proc pwencode
# to get the encoded password.
# SMU.user=sasadm@saspw
SMU.password=sasadmPW1

# A workspace profile is acceptable as an alternative
# to providing the host, port, user and password
# (if the password is in the profile). This can be
# just the profile name, which will look in the default
# location and the current working directory, or a full
# path to the profile.
# SMU.profile=MyServer

# The migration package output directory. It will be
# created if this is being run against the metadata server
# tier. Otherwise, it should already contain the results
# from your metadata server tier run and any other upstream
# tiers. The results from every tier of your deployment
# should be included in the same migration package.
# SMU.Output.Dir=C:\outputdir
#
# If the SMU is being run on a system with multiple network interfaces, or a dynamic host name, this property may need to be set to get the "right" name used for directory naming, etc.
# SMU.localhost=my.localhost.com
#
# Specify the user ID and password which will be used to open a connection to the Shared Services database. If the database for shared services is the SAS Table Server, supply the credentials for the SAS Trusted User. If the database for shared services is non-SAS database, supply the credentials appropriate for that database.
# SMU.webinfpltfm.dbms.userid=ss
SMU.webinfpltfm.dbms.password=ssPW1
#
# In order for the SAS Content Server content repository to be copied, the content server web application has to be stopped. This property allows the migration utility to pause and prompt the user to stop the application, copy the repository, and the pause and prompt the user to restart the application. If this is false, and a lock on the repository is detected by the analysis, it will put an error message in the report and not attempt the copy.
# SMU.scs.allow.sync=true
#
# These properties are used for SAS Content Servers that have had their repositories customized by the end user. If you don't understand these, chances are you don't need them.
# scs.jndi.jndiName=
# scs.jndi.driver=
# scs.jndi.jdbcUrl=
# scs.jndi.url=
# scs.jndi.user=
#scs.jndi.pwd=
#scs.jndi.jdbcdir=

# Specifies non-standard locations for SAS application data sets and
# catalogs for the migration utility to move.
#
# The utility packages these directories in the levconfig output
# folder in the "userdirs" subdirectory.
#
# List absolute paths or paths relative to the SAS configuration
# directory. Separate multiple paths with a comma.
#
#levconfig.user.dirs=my_SAS_solution_data_sets,my_SAS_solution_catalogs,
# C:\my_data\my_SAS_solution_misc

# This property should be set to true, if SMU will be run multiple
# times on the same machine because multiple tiers of SAS 9.3
# are deployed on the same machine.
#SMU.isMultipleTierMachine=true

# This property is used by the SDW to verify the version
# of the migration utility that was used to create a
# migration package vs. the one in the install package.
#
# DO NOT CHANGE THIS VALUE!!
#
SMU.SAS.version=9.3

**Note:** On multi-tier deployments, the SMU.SASROOT property should be
commented out on the middle tier.

3 On the target deployment machine, run the SAS Deployment Wizard to install the
software.

For more information about how to install the first maintenance release of SAS
Social Network Analysis Server 6.2, see Chapter 4, “Installing SAS Social Network
Analysis Server,” on page 35.

**CAUTION! You should not configure the software on the target machine in
this step. Only install the software.**

4 Review and apply any required hot fixes. To apply hot fixes, a utility, the SAS Hot Fix
Analysis, Download, and Deployment Tool (SASHFADD), is now available. The utility
enables you to create a customized hot fix report that lists hot fixes available for your deployment. The utility also generates scripts that automate the download and installation of hot fixes.

For more information about downloading and using this utility to apply hot fixes, see the SAS Hot Fix Downloads website at http://ftp.sas.com/techsup/download/hotfix/hotfix.html.

5 Copy the output directory created by the SAS Migration Utility to the target deployment machine.

6 Copy your configuration and customized files to the target deployment machine. You should create a new target directory so that you do not accidentally overwrite the new files with your backups. For more information about gathering these files, see “Gather the SAS Social Network Analysis Server Customized Files” on page 91.

7 If you do not want to use the original database that you created for SAS Social Network Analysis Server, clone a new SAS Social Network Analysis Server database. Do the following:

   a Create a new database that is a clone of the SAS Social Network Analysis Server database.

   b Load the new database with the corresponding version of the old database.

The processes for exporting and importing data to the database that you want to create and clone are beyond the scope of this guide. It is recommended that you contact your database administrator for more information about this procedure.

**TIP** You can use the SAS Social Network Analysis Server administrative scripts available on the target machine to prepare the new database to be used with the first maintenance release of SAS Social Network Analysis Server 6.2. Run the PrepareDatabase script to prepare the database. The scripts for preparing the database are located in the following directories:

- \SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\sample\dbscript (Windows)
Run the database update script command that is installed with the first maintenance release of SAS Social Network Analysis Server 6.2. On a Windows system, the files for updating your database are located in the `SAS-installation-directory\SASFoundation\9.4\snamva\sasmisc\dbmsc\ddl` directory. On a UNIX system, these files are located in the `SAS-installation-directory/SASFoundation/9.4/misc/snamva/dbmsc/ddl` directory.

The following table describes which scripts are available to update your existing database to the first maintenance release of SAS Social Network Analysis Server 6.2.

<table>
<thead>
<tr>
<th>SAS Social Network Analysis Version</th>
<th>Script</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version 2.3 first maintenance release</td>
<td>sna_upgrade_23_to_62_db2.sas (DB2)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_23_to_62_oracle.sas (Oracle)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_23_to_62_sqlserver.sas (SQL Server)</td>
</tr>
<tr>
<td>Version 3.1 first maintenance release</td>
<td>sna_upgrade_31m1_to_62_db2.sas (DB2)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_31m1_to_62_oracle.sas (Oracle)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_31m1_to_62_sqlserver.sas (SQL Server)</td>
</tr>
<tr>
<td>Version 6.1</td>
<td>sna_upgrade_61_to_62_db2.sas (DB2)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_61_to_62_oracle.sas (Oracle)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_61_to_62_sqlserver.sas (SQL Server)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_61_to_62_postgres.sas (PostgreSQL)</td>
</tr>
</tbody>
</table>

**Note:** Before running these scripts, you must set macro variables for the script that you want to run. These variables can be set at the top of the script. In addition, where applicable, ensure that you have created the appropriate ODBC connection.
before running these database update scripts. SAS/ACCESS for your database might be required. For more information about configuring the Microsoft SQL Server ODBC connection, see “Configure the Microsoft SQL Server ODBC Connection” on page 30.

The database update script creates, updates, or deletes appropriate objects and moves existing data as necessary.

Note that the database update script that you use is cumulative. For example, if you are upgrading from the first maintenance release of SAS Social Network Analysis Server 2.3 to the first maintenance release of SAS Social Network Analysis Server 6.2, the script includes 2.3 to 3.1 and 3.1 to 6.2 first maintenance release changes. You need to run the script only once.

This is a critical step in the upgrade process. If you have a large database, it might take a lot of processing time and table space to complete this step.

9 In a separate execution, run the SAS Deployment Wizard to configure the software. In the SAS Deployment Wizard pages, do the following:

a When prompted, ensure that you select to perform a migration, and enter the location of the output directory that contains the SAS Migration Utility package that was created in a previous step. For example, if you saved the output to C:\outputdir, you enter this location when prompted.

b Select an option to **Automatically deploy Web applications**. If you do not select to automatically deploy your web applications, you must manually perform web application deployment.

c Reference the cloned version of the SAS Social Network Analysis Server database that you created in a previous step.

For more information about how to configure the first maintenance release of SAS Social Network Analysis Server 6.2, see Chapter 6, “Configuring SAS Social Network Analysis Server,” on page 61.

10 Manually migrate any additional customized content from the old SAS Social Network Analysis Server as needed. For more information, see “How to Migrate Customized Web Application Data” on page 101.
11 Complete additional migration-related tasks and restart your web application servers. For more information, see “Performing Additional Post-migration Tasks” on page 103.

12 Review and complete the remaining post-installation tasks as needed. See Chapter 7, “Performing Post-installation Steps for SAS 9.4,” on page 71 and Chapter 8, “Performing Post-installation Steps for SAS Social Network Analysis Server,” on page 73 for more information about these activities.

How to Migrate Customized Web Application Data

As one of your pre-migration tasks, you created backup copies of your customized files from the previous release. The following tasks explain where you should deploy the customized files in the first maintenance release of SAS Social Network Analysis Server 6.2.

To migrate these files, do the following:

1. Locate the 6.2 first maintenance release versions of your files. On a Windows machine, by default, these files are located in the \SAS-configuration-directory\Lev<num>\Web\WebAppServer\SASServer8_1\sas_webapps\sas.sso.snaserver.war directory on the machine where the SAS Social Network Analysis Server middle tier is deployed.

2. For plug-in conversion from version 3.1 or 6.1, follow the instructions specified in the \SAS-installation-directory\SASSocialNetworkAnalysisMidTier\6.2\Config\en\plugin_conversion_to_62.pdf document.

   Note: You cannot convert plug-ins that you created prior to the first maintenance release of SAS Social Network Analysis Server 3.1.

3. Depending on the version of software that you are migrating from, you might need to account for certain properties and XML files that are no longer used by the solution. The following table contains a list of these changes.
<table>
<thead>
<tr>
<th>Migrating From</th>
<th>File or Database Table</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3M1, 3.1M1</td>
<td>WEB-INF\classes \config.properties</td>
<td>These properties have moved to the SAS Management Console.</td>
</tr>
<tr>
<td>2.3M1, 3.1M1, 6.1</td>
<td>currencies.properties</td>
<td>This file is deprecated. You can still use this file, but it is recommended that you review this file and enter your changes directly in the SNA_CURRENCY database table.</td>
</tr>
<tr>
<td>3.1M1, 6.1</td>
<td>SNA_CONTEXT_PREFERENCE</td>
<td>This database table is still used by the solution, but these preferences have been moved to metadata. By default, the preferences specified in the SNA_CONTEXT_PREFERENCE table override any metadata settings. It is recommended that you specify your context preferences in SAS Management Console and also turn off database checking in the SAS Management Console.</td>
</tr>
</tbody>
</table>

For more information about configuring preferences in SAS Management Console, see “Administration Scope” in the SAS Social Network Analysis Server: Administration Guide.

4 For any XML files that you want to convert from version 2.3, you need to update these files to account for the following XML code changes:

- The alertResponseOptions variable is obsolete and should be replaced with filtering attributes on XML elements.

- The XML attribute prompt has been replaced with placeholder.

For more information about these changes, see “Configuring the Alert Disposition Window” in the SAS Social Network Analysis Server: Administration Guide.

5 For any stored processes that you want to convert from version 2.3 or 3.1, update these processes to account for date formatting changes. Dates are no longer
formatted using mmddyyyy. You must modify the formatSpec variable. By default, SAS Social Network Analysis Server uses the short_date format.

For more information about date formatting, see “Formatting Date and Datetime Values” in the SAS Social Network Analysis Server: Administration Guide.

6 If you want to convert the getSocialNetworkNodeDetails stored process from version 2.3 or 3.1, you must update this process to account for a change in the way node details are resolved. Prior to version 6.1, &node_value was represented by node_label. Beginning with version 6.1, this parameter is represented by node_uid. You must update this in the stored process to enable node details to be displayed.

7 For other migrated files and folders, review the 6.2 first maintenance release versions of your files with the files that you copied to your target machine in a previous step. Next, carefully merge the customizations from your previous version into each file.

Performing Additional Post-migration Tasks

Overview

To successfully complete migration, you should complete these additional tasks, which resolve certain issues related to metadata in migrating from SAS Social Network Analysis Server:

1 Modify your metadata information for SAS Social Network Analysis in SAS Management Console.

2 Restart your web application servers.

Modify Metadata Information for SAS Social Network Analysis Server in SAS Management Console

Modify your metadata permissions on the folders containing your SAS Social Network Analysis Server stored processes. This task assumes you have a folder called Template containing one or more stored processes for SAS Social Network Analysis Server.
For each applicable report, do the following:

1 Start SAS Management Console, and connect as a SAS administrator (for example, sasadm@saspw).

2 Click the Folders tab, and navigate to the following folder: SAS Folders > System > Applications > SAS Social Network Analysis Server > Social Network Analysis Server 6.2 > Template.

3 Right-click the Template folder and select Properties.

4 Click the Authorization tab.

5 Grant the ReadMetadata permission to the Social Network Analysis Server Users group, and then click OK.

6 If you are migrating from 2.3, do the following:
   a In the Template folder, right-click on the processAlertResponse stored process and select Properties.
   b Click the Parameters tab.
   c In the Output Parameters list box, click New.
   d In the New Output Parameters dialog box, enter message in the Name field and select String in the Type field, and click OK.
   e Click OK again to save your changes.

Repeat this process for any other folders that apply to your solution.

**Restart Web Application Servers**

After you have completed these tasks, restart your web application server for SAS Social Network Analysis Server. Stop and restart application servers as follows where applicable:

1 Stop SASServer8
2 Start SASServer8

Pre-update Tasks

Overview of Pre-update Tasks

An update from SAS Social Network Analysis Server 6.1 on SAS 9.4 to the first maintenance release of SAS Social Network Analysis Server 6.2 on SAS 9.4 is based on an existing installation of SAS 9.4. Accordingly, complete the following pre-installation tasks:

1 Review the pre-installation overview material and ensure that your environment meets the system requirements for the first maintenance release of SAS Social Network Analysis Server 6.2. For more information, see Chapter 3, “Preparing for SAS Installation,” on page 17.

2 Perform the following pre-update tasks:
   - back up your existing SAS Social Network Analysis Server database
   - back up your SAS metadata
   - gather SAS Social Network Analysis Server configuration files
   - back up your SAS-configuration-directory\Lev<num> and SAS-installation-directory directories

3 Download the software that is listed in your software order. For more information, see “Creating a SAS Software Depot and Obtaining a SAS Installation Data (SID) File” on page 23.

The update assumes that you have done the following in an existing version of SAS Social Network Analysis Server:
   - made customizations (following SAS Social Network Analysis Server customization guidelines)
customized stored processes (for example, on Windows you can copy and edit the original stored processes in the \SAS-installation-directory\SASFoundation\9.4\snamva\sasstp directory and then change the execution path in metadata)

- created new stored processes for any new organizational requirements
- created new SAS directories under the \SAS-configuration-directory\Lev<num> directory (for storing old files, work in process, and so on)

If you have performed any additional customizations to your system, ensure that you have fully documented these changes.

Pre-update Steps

Back Up Your Existing SAS Social Network Analysis Server Database

Before updating to the first maintenance release of SAS Social Network Analysis Server 6.2, it is recommended that you back up your existing SAS Social Network Analysis Server database. You might need to work with your database administrator and plan for this task in advance. Depending on the size of the databases, this might take time and requires space on the file system.

Gather the SAS Social Network Analysis Server Configuration Files

You must manually update some custom content. It is recommended that you first back up all custom content before proceeding with the update. To prepare for this update, gather and review the files that you might have customized in previous versions.

Gather and review the following files for customizations:

1. Locate the WAR folder where you have made customizations to your deployment. Typically, this folder is located in the \SAS-configuration-directory\Lev<num>\Web\WebAppServer\ directory. The files that are deployed to the web application server are stored in this WAR folder.
For example, you might find these customizations in the `SAS-configuration-directory\Lev<num>\Web\WebAppServer\SASServer8_1\sas_webapps\sas.sso.snaserver.war` directory.

**Note:** If you have deployed custom functions or custom components to SAS Social Network Analysis Server, they will also reside in this folder.

2  Locate and back up the following:
   - `currencies.properties` file
   - `plugins.json` file
   - The `src\sna\plugins` directory
   - Any custom network icons in the `src\sna\resources\images\network` directory
   - Any custom labels that you included in the `WEB-INF\classes` directory

   **Note:** Plug-ins from your previous version of SAS Social Network Analysis must be converted to the 6.2 first maintenance release format.

   In addition, back up any other files that you have customized in this folder.

3  Review the files to determine whether you have made any customizations.

4  Locate and back up any stored processes related to SAS Social Network Analysis Server that you created or modified.

5  Locate and back up any related directories or folders that you created under the `SAS-configuration-directory\Lev<num>` directory (for storing old files, work in process, and so on)

Gather and review the following files for customizations:

1  Locate and back up your customized files. The files that are deployed to the web application server are stored in a Java EAR file. By default, this file is located in the `SAS-configuration-directory\Lev<num>\Web\Staging` directory.

2  Review the files to determine whether you have made any customizations.
Update Tasks for the First Maintenance Release of SAS Social Network Analysis Server 6.2

How to Update to the First Maintenance Release of SAS Social Network Analysis Server 6.2

The update approach is based on an existing installation of a previous release of SAS Social Network Analysis Server on SAS 9.4. This process assumes that the update occurs on the same machine.

To update to the first maintenance release of SAS Social Network Analysis Server 6.2:

1. Perform the necessary SAS Social Network Analysis Server pre-update steps.


   SAS Social Network Analysis Server uses the following SAS application managed services (it is recommended to stop the servers in this order where applicable):
   - SASServer8
   - SASServer1

3. Stop any SAS servers that you are running.

4. Create backup copies of configuration and customized files. For more information about gathering these files, see “Pre-update Steps” on page 106.

5. Start the SAS Deployment Wizard from your SAS Software Depot. On a Windows system, double-click the setup.exe file. On a UNIX system, execute the setup.sh file. These files are located in your SAS Software Depot folder.
Note: You download the SAS Software Depot using the SAS Download Manager. Information about how to download and install the SAS Download Manager is provided in your SAS Software Order e-mail.

6 Select your installation language in the Choose Language dialog box, and click OK.

7 After the SAS Deployment Wizard opens, enter the following information about each page to install the updates:

   a Select Deployment Task page. Select Install SAS software, and then click Next.

   b Select SAS Software Order page. Select your updated software order, and then click Next.

   c Review Required Updates page. The following figure shows this page.
Figure A1.1  Review Required Updates

The SAS Deployment Wizard must install both product updates and support components to bring the software in your SAS Home to the level of the software in your order. The summary table below will list any product updates that will be performed.

Before going further, read the instructions at http://support.sas.com/software/updates to prepare your SAS Home for updates. If these instructions are not followed, the environment may not be configured correctly.

Exit all of your SAS software before proceeding beyond this page.

<table>
<thead>
<tr>
<th>Products to Install</th>
<th>Installed</th>
<th>Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAS/GRAPH ActiveX Control (64-bit)</td>
<td>9.3</td>
<td>9.31</td>
</tr>
<tr>
<td>SAS Threaded Kernel DS2 and TSSQL Language Processors (64-bit)</td>
<td>9.32</td>
<td>9.35</td>
</tr>
<tr>
<td>SAS Table Server Base Components (64-bit)</td>
<td>9.3</td>
<td>9.33</td>
</tr>
<tr>
<td>SAS Threaded Kernel Extensions for Statistics (64-bit)</td>
<td>9.31</td>
<td>12.1</td>
</tr>
<tr>
<td>SAS Threaded Kernel Extensions for Advanced Analytics (64-bit)</td>
<td>9.3_M1</td>
<td>12.1</td>
</tr>
<tr>
<td>BASE Infrastructure to support Hadoop (64-bit)</td>
<td>9.3</td>
<td>9.32</td>
</tr>
<tr>
<td>Advanced Analytics Common Components (64-bit)</td>
<td>9.3_M1</td>
<td>12.2</td>
</tr>
<tr>
<td>Statistics Common Components (64-bit)</td>
<td>9.3</td>
<td>12.1</td>
</tr>
<tr>
<td>SAS Data Mining Scoring (64-bit)</td>
<td>9.3</td>
<td>9.31</td>
</tr>
<tr>
<td>SAS/ACCESS Interface to Oracle (64-bit)</td>
<td>9.3_M1</td>
<td>9.31_M1</td>
</tr>
<tr>
<td>SAS/STAT (64-bit)</td>
<td>9.3_M1</td>
<td>12.1</td>
</tr>
<tr>
<td>Base SAS Statistical Procedures (64-bit)</td>
<td>9.3_M1</td>
<td>12.1</td>
</tr>
<tr>
<td>SAS Network Algorithms (64-bit)</td>
<td>9.31</td>
<td>12.2</td>
</tr>
</tbody>
</table>

The wizard determines which products to update. Click **Next**.

d  **Checking System** page. The system checks to see whether any files are locked or have Write permissions issues. If the file system checks out without any issues, click **Next**.

e  **Specify Software Location** pages. Specify the location for any required software, such as your web application server or Java Development Kit, and click **Next**.

f  **Deployment Summary** page. Verify your installation, and click **Start**.
Deployment Complete page. Verify your installation successfully completed, and click Next.

Keep the SAS Deployment Wizard open, but review and apply any required hotfixes. To apply hotfixes, a utility, the SAS Hot Fix Analysis, Download, and Deployment Tool (SASHFADD), is now available. The utility enables you to create a customized hot fix report listing hot fixes available for your deployment. The utility also generates scripts that automate the download and installation of hot fixes. For more information about downloading and using this utility to apply hotfixes, see the SAS Hot Fix Downloads website at http://ftp.sas.com/techsup/download/hotfix/hotfix.html.

Run the database script that is installed with the first maintenance release of SAS Social Network Analysis Server 6.2. On a Windows system, the files for updating your database are located in the SAS-installation-directory \SASFoundation\9.4\snamva\sasmisc\dbmsc\ddl directory. On a UNIX system, these files are located in the SAS-installation-directory/ SASFoundation/9.4/misc/snma\vdbmsc/ddl directory.

The following table describes which scripts are available to update your existing database to the first maintenance release of SAS Social Network Analysis Server 6.2.

<table>
<thead>
<tr>
<th>SAS Social Network Analysis Version</th>
<th>Script</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>sna_upgrade_61_to_62_db2.sas (DB2)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_61_to_62_oracle.sas (Oracle)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_61_to_62_sqlserver.sas (SQL Server)</td>
</tr>
<tr>
<td></td>
<td>sna_upgrade_23_to_62_postgres.sas (PostgreSQL)</td>
</tr>
</tbody>
</table>

Note: Before running these scripts, you must set macro variables for the script that you want to run. These variables can be set at the top of the script. In addition, where applicable, ensure that you have created the appropriate ODBC connection before running these database scripts. SAS/ACCESS for your database might be required. For more information about configuring the Microsoft SQL Server ODBC...
connection, see “Configure the Microsoft SQL Server ODBC Connection” on page 30.

The database update script creates or deletes appropriate tables and moves existing data as necessary.

This is a critical step in the upgrade process. If you have a large database, it might take a lot of processing time and table space to complete this step.

10 Configure the product in the SAS Deployment Wizard. Complete these steps:

a Select Configuration Directory/Level page. Select the configuration directory and level that you want to update. Then click Start to launch the SAS Deployment Manager, which is used to update the configuration directory that you select.

b Specify Connection Information page. Specify a user name and password for the SAS Metadata Server, and click Next.

c SAS Internal Account: Trusted User page. Specify a password for the trusted user account for the SAS Metadata Server, and click Next.

d Summary page. Review the product updates that are to be applied, and click Start to begin updates of the configuration.

e After the update completes, the Additional Resources page appears. Click Finish to complete the configuration.

11 Complete additional update-related tasks and restart your web application servers. For more information, see “How to Manually Update Custom Data” on page 113.

12 Review and complete the remaining post-installation tasks. See Chapter 7, “Performing Post-installation Steps for SAS 9.4,” on page 71 and Chapter 8, “Performing Post-installation Steps for SAS Social Network Analysis Server,” on page 73 for more information about these activities.

13 Make sure all users clear the cache in their browser. If the cache is not cleared, problems can occur because the updated code has not been reloaded.
How to Manually Update Custom Data

About These Tasks

Note: As one of your pre-update tasks, you created backup copies of your customized files from the previous release of SAS Social Network Analysis Server and then restarted your web application server. The following tasks explain where you should deploy the customized files in the updated version of SAS Social Network Analysis Server.

How to Update Customized Files

Gather and review the following files for customizations:

1. Locate the 6.2 first maintenance release versions of your files. On a Windows machine, by default, these files are located in the `SAS-configuration-directory\Lev<num>\Web\WebAppServer\SASServer8_1\sas_webapps\sas.sso.snaserver.war` directory on the machine where the SAS Social Network Analysis Server middle tier is deployed.

2. For plug-in conversion from version 6.1, follow the instructions specified in the `SAS-installation-directory\SASSocialNetworkAnalysisMidTier\6.2 first maintenance release\Config\en\plugin_conversion_to_62.pdf` document.

3. Depending on the version of software that you are migrating from, you might need to account for certain properties and XML files that are no longer used by the solution. The following table contains a list of these changes.

<table>
<thead>
<tr>
<th>File or Database Table</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>currencies.properties</td>
<td>This file is deprecated. You can still use this file, but it is recommended that you review this file and enter your changes directly in the SNA_CURRENCY database table.</td>
</tr>
<tr>
<td>File or Database Table</td>
<td>Change</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SNA_CONTEXT_PREFERENCE</td>
<td>This database table is still used by the solution, but these preferences have been moved to metadata. By default, the preferences specified in the SNA_CONTEXT_PREFERENCE table override any metadata settings. It is recommended that you specify your context preferences in SAS Management Console and also turn off database checking in the SAS Management Console.</td>
</tr>
</tbody>
</table>

For more information about configuring preferences in SAS Management Console, see “Administration Scope” in the *SAS Social Network Analysis Server: Administration Guide*.

4 For other migrated files and folders, review the 6.2 first maintenance release versions of your files with your backup files and carefully merge the customizations from your previous version into each file.

**Restart Web Application Servers**

After you have completed updating your customized files, restart your web application server. Stop and restart application servers in the following order where applicable:

1 Stop SASServer8
2 Stop SASServer1
3 Start SASServer1
4 Start SASServer8
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