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Upgrading from SAS[®] Forecast Server 1.2 to SAS[®] Forecast Server 1.4

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Upgrading from SAS Forecast Server 1.2 to SAS Forecast Server 1.4

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Upgrading from SAS Forecast Server 1.2 to SAS Forecast Server 1.4

Overview

Upgrading from Sas Forecast Server 1.2 to SAS Forecast Server 1.4 uses many of the same tools and processes that you used when you initially installed SAS Forecast Server. The following system requirements and instructions will guide you through upgrading SAS Forecast Server.

System Requirements for SAS Forecast Server

Hardware Requirements

Memory Requirements

- SAS Forecast Studio client installation requires 500 megabytes of memory.
- SAS Forecast Server Mid-Tier and SAS Analytics Platform, SAS servers (SAS Metadata Server and SAS Workspace Server), and client installation require 2 gigabytes of memory.

Operating System Requirements

The SAS Forecast Server Mid-Tier is a Java-based, middle-tier component that enables automatic forecasting of time series data. The SAS Forecast Server Mid-Tier is installed as an application within the SAS Analytics Platform, and can be installed on the following operating systems:

- Windows XP (32-bit)
- Windows Server 2003 (Standard Edition)
- Windows Server 2003 (Enterprise Edition)
- UNIX AIX (64-bit), Release 5.1 or later
- Solaris (64-bit)
- HP-UX (64-bit)
- HP-Itanium

SAS Forecast Studio is a Java-based, client-tier application that is based on SAS High-Performance Forecasting procedures. The SAS Forecast Studio client can be installed only on the Windows XP operating system.

Software Requirements for SAS Forecast Server

SAS Software Requirements

Required SAS Software

Your software bundle includes the following required SAS products and software:

- SAS/OR (unless SAS/OR is explicitly licensed, use of SAS/OR is limited to licensed users of SAS Forecast Server)
- SAS Forecast Server bundle

CAUTION: SAS Forecast Server 1.4 must be used with SAS High-Performance Forecasting 2.2 that is available in your software bundle. If you use SAS Forecast Server 1.4 with any earlier versions of SAS High-Performance Forecasting, then you might get unexpected results.

Optional SAS Software

The following SAS products and components are often used with SAS Forecast Server, but are not required to operate SAS Forecast Server:

- SAS Data Integration Studio
- SAS BI Server
- SAS Enterprise Miner

Third-Party-Vendor Software Requirements

In addition to the licensed SAS products required to support SAS Forecast Server, some third-party software is required. For information about the third-party software and to access downloads of the software, see the following Web site:

<http://support.sas.com/documentation/configuration/thirdpartysupport/>

Note: For full functionality, installation of the Java Runtime Environment 1.4.2_09 is required on both the client tier and the middle tier.

Web Browser

Internet Explorer 5.5 (or later) is required.

Data Requirements

Overview of SAS Forecast Server Data Flow

Figure 1 shows the general flow of data in SAS Forecast Server.

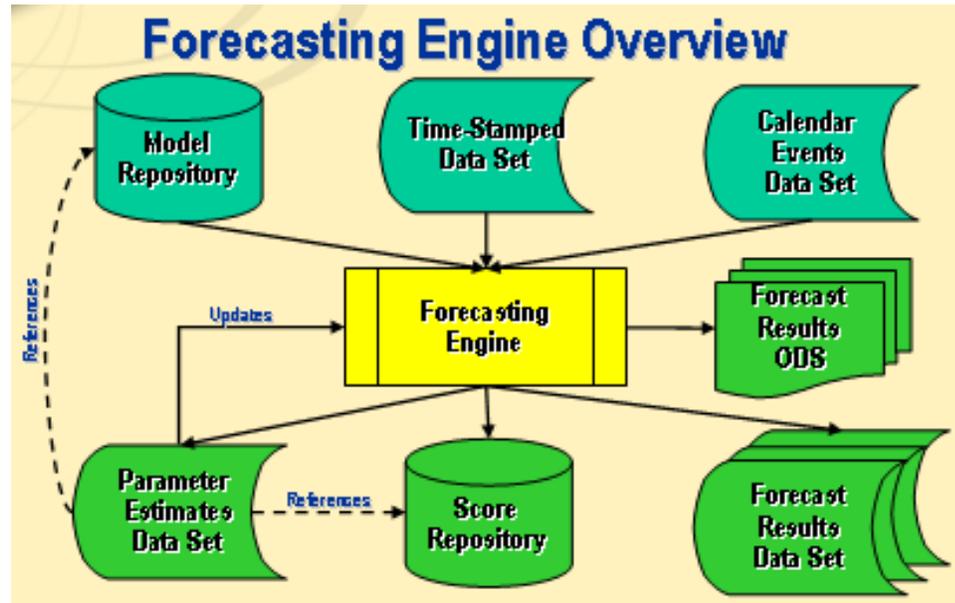


Figure 1. Data Flow in SAS Forecast Server

When using SAS Forecast Server, you create or update forecasts by using the following general data flow:

1. Create or generate an input SAS data set, which you store in a pre-assigned SAS library. For information about pre-assigning a SAS library, see the post-installation tasks document.
2. Open SAS Forecast Studio (client), and perform the following steps:
 - (a) Create a project.
 - (b) Select your input library and SAS data set.
 - (c) Specify how to forecast your data.
 - (d) Assign variables to roles.
 - (e) Configure the hierarchy.
 - (f) Enter project properties.
 - (g) Perform additional steps.
3. Create the forecasting model database.
4. Select the default model selection list.
5. Create events.
6. Generate forecasting results.

7. Modify estimates and forecast data again, if necessary, and repeat steps 3-6 (iterative process).
8. Store forecasting results and parameter estimates.

For a more information about using SAS Forecast Studio, see the SAS Forecast Studio Help System.

Input Data Set Requirements

Overview

In order for SAS Forecast Server to generate a forecast, the input SAS data set must contain one variable for each time series. SAS Forecast Server requires a date or datetime variable in the data set in order to generate forecasts. SAS Forecast Server generates forecasts from timestamped data that consists of unique and equally spaced data over time. If the data are not equally spaced with regard to time, then SAS Forecast Server uses the date or datetime variable to accumulate the data into a time series before forecasting. The input data set must be a single SAS data set that is pre-assigned. For information about pre-assigning libraries, see the post-installation tasks document.

You can use transactional data to generate a forecast. You can use the accumulation options in SAS Forecast Studio to prepare the time series data.

Data Set Variables

You can have the following variables in the input data set:

- The time ID variable must contain the date or datetime value of each observation.
- BY variables enable you to group observations into a hierarchy.
- Dependent variables are the variables used to model and forecast.
- Independent variables are the explanatory or input variables that are used to model and forecast the dependent variable.
- Reporting variables are not used for analysis but for reports only.
- Indicator variables are used to signify any unusual event in the model, such as holidays and promotions.

The names of the variables cannot match any of the reserved variable names that are used in the output data set. The variable names in your input data set cannot start with an underscore and cannot match any of the variable names in the output data sets that SAS Forecast Server creates. The following table lists the variables that are created by the output data sets. For more information about the output data sets that are created, see the *SAS High-Performance Forecasting User's Guide*.

If your input data set contains one of the variables listed in [Table 1](#) and you try to assign this variable to a role in SAS Forecast Studio then an error message appears.

Table 1. Reserved Variable Names

Variable Name	Description
<i>_VariableName</i>	Any variable name that begins with an underscore
ACTUAL	Dependent series value
COMP	Name of the component
COMPONENT	Model component
CROSS	Cross variable name
DSVAR	Data set variable mapping
EST	Parameter estimate
FACTOR	Model factor
LABEL	Parameter or statistic label
LAG	Lag of input
LOWER	Lower confidence limit
MODE	Mode of decomposition
MODEL	Name of model
MODELVAR	Model variable mapping
NAME	Variable name
PARAM	Parameter name
PREDICT	Component forecast
PVALUE	Parameter estimate <i>p</i> -value
SEASON	Seasonal index
SELECT	Name of selection list
SHIFT	Shift
STAT	Statistic name
STATUS	Indicates success/failure in estimating parameter
STD	Prediction standard error
STDERR	Parameter estimate standard error
TIME	Time ID
TIMEID	Time ID values
TVALUE	Parameter estimate <i>t</i> -value
TRANSFORM	Transformation applied
UPPER	Upper confidence limit
AADJRSE	Amemiya's adjusted R-Square
ACF	Autocorrelations
ACF2STD	Indicates ACF beyond two standard errors
ACFLPROB	Autocorrelation log probabilities
ACFNORM	Normalized autocorrelations
ACFPROB	Autocorrelation probabilities
ACFSTD	Autocorrelation standard errors
ACOV	Autocovariances
ADJRSQ	Adjusted R-Square
AIC	Akaike information criterion
APC	Amemiya's prediction criterion
AVG	Average value
CC	Cycle component
CCF	Cross-correlations
CCF2STD	Indicates cross-correlations beyond two standard errors

Table 1. (continued)

Variable Name	Description
CCFNORM	Normalized cross-correlations
CCFLPROB	Cross-correlation log probabilities
CCFPROB	Cross-correlation probabilities
CCFSTD	Cross-correlation standard errors
CCOV	Cross-covariances
CSS	Corrected sum of squares
ERROR	Prediction errors
IACF	Inverse autocorrelations
IACF2STD	Indicates inverse autocorrelations beyond two standard errors
IACFNORM	Normalized inverse autocorrelations
IACFLPROB	Inverse autocorrelation log probabilities
IACFPROB	Inverse autocorrelation probabilities
IACFSTD	Inverse autocorrelation standard errors
IC	Irregular component
LAG	Time lag
LAG h	Correlation or cross-correlation statistics for lag h
LOWER	Lower confidence limits
MAE	Mean absolute error
MAPE	Mean absolute percent error
MAXERR	Maximum error
MAXIMUM	Maximum value
MAXPE	Maximum percent error
ME	Mean error
MEAN	Mean value
MEDIAN	Median value
MINERR	Minimum error
MINIMUM	Minimum value
MINPE	Minimum percent error
MPE	Mean percent error
MSE	Mean square error
N	Number of non-missing observations or Number of variance products
NAME	Variable name
NMISS	Number of missing observations
NOBS	Number of observations
ORIGINAL	Original series index
PACF	Partial autocorrelations
PACF2STD	Indicates PACF beyond two standard errors
PACFLPROB	Partial autocorrelation log probabilities
PACFNORM	Partial normalized autocorrelations
PACFPROB	Partial autocorrelation probabilities
PACFSTD	Partial autocorrelations standard errors
PCSA	Percent change seasonal adjusted component
PERIOD t	Decomposition component value or trend statistic for time period t
PREDICT	Predicted values
RANGE	Maximum value

Table 1. (continued)

Variable Name	Description
RMSE	Root mean square error
RSQUARE	R-Square
RWRSQ	Random walk R-Square
SA	Seasonal adjusted component
SBC	Schwarz Bayesian information criterion
SC	Seasonal component
SCSTD	Seasonal component standard errors
SIC	Seasonal-irregular component
SEASON s	Season statistic value for season s
SSE	Sum of squares error
STD	Prediction standard errors
STDDEV	Standard deviation
SUM	Summation value
TC	Trend component
TCC	Trend-cycle component
TCS	Trend-cycle-seasonal component
UMSE	Unbiased mean square error
URMSE	Unbiased root mean square error
UPPER	Upper confidence limits
USS	Uncorrected sum of squares
WN	White noise test statistics
WNLPROB	White noise test log probabilities
WNPROB	White noise test probabilities

Additional Information

Often your data are not in the appropriate format for SAS Forecast Server. To avoid misleading or incorrect analyses from your time series data, you should preprocess your data.

- For general information about working with time series data, see the *SAS/ETS User's Guide*.
- For more information about creating time series data from transactional data, see "The TIMESERIES Procedure" and "The EXPAND Procedure" documentation in the *SAS/ETS User's Guide*.
- For more information about creating SAS data sets from Excel files, see the IMPORT Procedure documentation in the *Base SAS Procedures Guide*.
- For more information about transposing data for statistical analysis, see "The TRANSPOSE Procedure" documentation in the *Base SAS Procedures Guide*.

National Language Support

SAS Forecast Server is available in the following languages:

- Chinese (Simplified)
- English
- French
- Italian
- Japanese
- Korean

Upgrade Installation Tasks

Upgrade from SAS Forecast Server 1.2 to 1.4 Tasks Checklist

Table 2. Pre-installation Tasks Checklist

Task
Create a copy of your SAS metadata.
Create a copy of the stored processes.
Stop the SAS Analytics Platform, SAS Metadata Server, and SAS Object Spawner.
Create a copy of your current SAS Forecast Server directories.
Install SAS Forecast Server 1.4 software.
Verify your SAS Forecast Server installation.

Upgrade Instructions

Create a Copy of Your SAS Metadata

For information about how to create a copy of your entire metadata repository, see the section about managing the SAS Metadata Server in the *SAS Intelligence Platform: Administration Guide* that can be found in SAS OnlineDoc at the following Web address:

<http://support.sas.com/onlinedoc/913/docMainpage.jsp>

Create a Copy of the Stored Processes

For information about how to create a copy of the stored processes, see the section about the BI Manager Import and Export Wizard in the *SAS Intelligence Platform: Administration Guide* that can be found in SAS OnlineDoc at the following Web address:

<http://support.sas.com/onlinedoc/913/docMainpage.jsp>

Stop the SAS Analytics Platform, SAS Metadata Server, and SAS Object Spawner

SAS Analytics Platform

To stop the SAS Analytics Platform, perform the following steps:

UNIX:

1. Open a terminal session and have an X server running.
2. Navigate to the !SASROOT/SASAPCore/bin path.
3. Execute the following command:

```
./apserver stop
```

Windows:

From the **Start** menu, select

Programs → **SAS** → **SAS Analytics Platform** → **Stop AP Server**

Alternatively, you can stop the SAS Analytics Platform by executing a .bat file. At a DOS prompt, navigate to the !SASROOT\SASAPCore\bin directory and use the following command:

```
apserver.bat stop
```

SAS Metadata Server

To stop the SAS Metadata Server, perform the following steps:

UNIX:

1. Navigate to the following path:
 <path-to-config-dir>/Lev1/SASMain/MetadataServer
2. Execute the script in the directory that stops the SAS Metadata Server.

Windows:

From the **Start** menu, select

Programs → **SAS** → <configuration-directory> → **Stop SAS Metadata Server**

Alternatively, you can stop the SAS Metadata Server by executing a .bat file. You find the .bat file in the following folder:

```
<path-to-config-dir>\Lev1\SASMain\MetadataServer
```

SAS Object Spawner

To stop the SAS Object Spawner, perform the following steps:

UNIX:

1. Navigate to the following path:
`<path-to-config-dir>/Lev1/SASMain/ObjectSpawner`
2. Execute the script in the directory that stops the SAS Object Spawner.

Windows:

From the **Start** menu, select

Programs → **SAS** → `<configuration-directory>` → **Stop SAS Object Spawner**

Alternatively, you can stop the SAS Object Spawner by executing a .bat file. You find the .bat file in the following folder:

`<path-to-config-dir>\Lev1\SASMain\ObjectSpawner`

Create a Copy of Your SAS Forecast Server Directories

Installation Directories

To create a backup copy of your SAS Forecast Server installation directories, follow the methods that satisfy the security requirements at your site. The installation directories are found in the following default location:

UNIX:

`<install-dir>/SASAPCore/apps/Forecasting`

Windows:

`!SASROOT\SASAPCore\apps\Forecasting`

Forecast-studio-project Directories

The `<forecast-studio-project>` directories are the central physical repository of workspace server project files that must be accessible to the SAS Workspace Server. To create a backup copy of your `<forecast-studio-project>` directories, follow the methods that satisfy the security requirements at your site. The `<forecast-studio-project>` directories are found in the following default location:

UNIX:

`<config-dir>/SAS/ForecastStudio`

`<config-dir>` is the home directory of the user who installed SAS Forecast Server.

Windows:

`c:\SAS\ForecastStudio`

Install SAS Forecast Server 1.4

All Platform Tasks

To install the new version of SAS Forecast Server software on any operating system, you must perform the following steps:

1. If your site has created a SAS Software Install Depot, then start the SAS Software Navigator. Alternatively, start the software installation by using the setup.exe script in the Windows operating environment or the setup.sh script in UNIX operating environments.
2. Select the **Advanced** deployment option and the path to your SID that contains the upgraded version of SAS Forecast Server software. Click **Next**.
3. Verify the SID information and click **Next**.
4. Select a standard deployment plan or browse to the location of your customized plan. Click **Next**.
5. Continue the installation instructions by following the tasks specified for the operating environment in which you are installing SAS Forecast Server software.

Note: During your installation, in the Select Your Installation Options window, be sure to **deselect** the SAS Configuration Wizard component.

UNIX Tasks

1. Complete the preceding installation instructions for all platforms. See [“All Platform Tasks.”](#)
2. In the Select Your Installation Options window, **deselect** the SAS Configuration Wizard component.
3. Select the installation path and click **Next**. If you specify an alternate default location, then browse to the location before you click **Next**.
4. Select the set of Help files to install, and click **Next**.
5. Review the options before starting the installation process, and click **Install**.
6. Click **OK** in the SAS User Account window.
7. Press ENTER in the SAS Installation Setup window.
8. Type **2** to select the option that updates an existing installation, and press ENTER.
9. Specify the target directory. If the path is correct, then press ENTER. If the path is not correct, then specify the correct installation path and press ENTER.
10. Press ENTER if the path displayed is correct.
11. Press ENTER to load all new licensed software.
12. Select your preferred language, and press ENTER.
13. If asked whether you want to be prompted for a root password later during this run, then type **Y**. Press ENTER to continue.
14. Verify the log to check for errors. Warnings can be ignored. Press ENTER to return to SAS Software Navigator.
15. Click **Yes** to continue with the installation. The rest of the installation is in silent mode.
16. Click **Next** in the Welcome to the InstallShield Wizard for SAS Forecast Server Mid-Tier 1.4 window.

17. Click **Next** in the window that specifies the installation directory.
18. Click **Yes to All** when asked if you want to replace the files.
19. Click **Finish** to continue.
20. Install the current hot fixes for SAS 9.1.3 on the machine that is running the SAS Workspace Server (server tier). You must install the hot fixes on the server tier before you start configurations on the middle tier.

The required hot fixes can be downloaded from the following Web address:
http://ftp.sas.com/techsup/download/hotfix/op_home.html

CAUTION: At the minimum, you must install the following system hot fixes in order for the system to function:

- E9BA16 (Base SAS)
- E9BA20 (Base SAS)
- E9BA26 (Base SAS)
- E9BA27 (Base SAS)
- E9IH01 (SAS Integration Technologies)

CAUTION: Service Pack 4 for SAS 9.1.3 and the hot fixes for Service Pack 4 are required in order for SAS Forecast Server to function correctly.

21. Start SAS Metadata Server and SAS Object Spawner. For information about starting the SAS Metadata Server, see “[SAS Metadata Server](#).” For information about starting the SAS Object Spawner, see “[SAS Object Spawner](#).”
22. Import the stored processes for SAS Forecast Server 1.4 by using the StoredProcesses.spk file.
23. Start the SAS Analytics Platform. For information about starting the SAS Analytics Platform, see “[SAS Analytics Platform](#).”

Windows Tasks

1. Complete the preceding installation instructions that apply to all platforms. See “[All Platform Tasks](#).”
2. In the Select Your Installation Options window, **deselect** the SAS Configuration Wizard component.
3. Select the installation path and click **Next**.
4. Select the set of Help files to install and click **Next**.
5. Click **Install**.
6. The System Requirement Wizard runs to verify your operating system components. You might have to restart the machine and start the installation again by using the setup.exe script, which starts SAS Foundation installation. For more information, see the SAS Intelligence Platform documentation set that can be found at the following Web address:
<http://support.sas.com/onlinedoc/913/docMainpage.jsp>

7. In the Existing SAS Installation Found window, select **Add components to SAS** and click **Next**.
8. Select required components for SAS installation.
9. Complete the SAS Foundation installation. The rest of the components and products are installed automatically in silent mode.
10. During SAS Forecast Server Mid-Tier installation, specify the SASAPCore directory location.
11. Finish the SAS installation.
12. Install the current hot fixes for SAS 9.1.3 on the machine that is running the SAS Workspace Server (server tier). You must install the hot fixes on the server tier before you start configurations on the middle tier.

The required hot fixes can be downloaded from the following Web address:
http://ftp.sas.com/techsup/download/hotfix/op_home.html

CAUTION: At the minimum, you must install the following system hot fixes in order for the system to function:

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- E9BA20 (Base SAS)
- E9BA26 (Base SAS)
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CAUTION: Service Pack 4 for SAS 9.1.3 and the hot fixes for Service Pack 4 are required in order for SAS Forecast Server to function correctly.

13. Start the SAS Metadata Server and SAS Object Spawner. For information about starting the SAS Metadata Server, see “[SAS Metadata Server](#).” For information about starting the SAS Object Spawner, see “[SAS Object Spawner](#).”
14. Import the stored process for SAS Forecast Server 1.4 by using the StoredProcesses.spk file.
15. Start the SAS Analytics Platform. For information about starting the SAS Analytics Platform, see “[SAS Analytics Platform](#).”

Verify Your SAS Forecast Server Installation

Start and Verify the SAS Servers

What Are the SAS Servers?

For more information about the SAS servers, refer to the SAS Intelligence Platform documentation set. You can access the SAS Intelligence Platform documentation set in the SAS OnlineDoc at the following Web address:

<http://support.sas.com/onlinedoc/913/docMainpage.jsp>

Before you start your client application, you must have the following SAS servers and object spawner running:

- SAS Metadata Server
- SAS Object Spawner
- SAS Workspace Server(started by the SAS Object Spawner)
- SAS Stored Process Server (started by the SAS Object Spawner)
- SAS Analytics Platform

Each server or object spawner is represented by a directory inside the **SASMain** directory. For example, you might see a **WorkspaceServer** folder or an **ObjectSpawner** folder. If you choose to start the servers by using scripts, then each directory for a server that you can start directly contains a script called *startserver-type.extension*.

- On UNIX systems, you call these scripts directly to start servers and spawners.
- On Windows systems, you can call these scripts directly by using the Start menu. For example, select
Start → **Programs** → **SAS** → *configuration-directory* → **Start SAS Object Spawner**.

SAS Metadata Server

Definition

The SAS Metadata Server controls access to a central repository of metadata, which is shared by all of the applications in the system. This repository contains metadata that represents items such as SAS servers, users, libraries, and data sets. For more information about the SAS Metadata Server, refer to the SAS Intelligence Platform documentation set, which can be found in the SAS OnlineDoc at

<http://support.sas.com/onlinedoc/913/docMainpage.jsp>.

Verify the SAS Metadata Server Is Running

Windows Operating Environment

If your SAS Metadata Server is running on a Windows machine and you choose to run the servers as services, then the servers start automatically when you restart your machine. However, you can use the services window to stop or restart services by performing the following steps:

1. Navigate to the Services window by selecting:
Settings→**Control Panel**→**Administrative Tools**→**Services**.
2. Right-click the server item.
3. Select **Start**, **Stop**, or **Restart**.

If your server is running on a Windows machine and you choose to start the servers by using scripts, then start the servers by using the **Start** menu and selecting:

Start→**Program**→**SAS**→ *configuration-directory*→**Start SAS Metadata Server**.

Note: You can start a server by executing a .bat file. You find the .bat file for a particular server in the following folder:

*path-to-config-dir***Lev1****SASMain****MetadataServer**

UNIX Operating System

On a UNIX operating environment, you start a server by performing the following steps:

1. Log on using the SAS installer account.
2. Navigate to the following path:
path-to-config-dir/**Lev1**/**SASMain**/**MetadataServer**
3. Execute the script in the directory that starts the server.

SAS Workspace Server

Definition

The SAS Workspace Server executes any type of SAS program. The SAS Object Spawner starts the SAS Workspace Server. For more information about the SAS Workspace Server, see the *SAS Integration Technologies Administrator's Guide*.

Test the SAS Workspace Server Connection

You can test your connection to the SAS Workspace Server by performing the following steps:

1. Start a SAS Management Console session, and log on as a SAS Administrator (e.g., *sasadm*).
2. Expand the **Server Manager** node.

3. Expand the **SASMain** node.
4. Expand the **SASMain-Logical Workspace Server** node.
5. Select **SASMain-Workspace Server**.
6. In the right panel, right-click **Connection: SASMain - Workspace Server**.
7. Select **Test Connection** as shown in [Figure 2](#).
8. Enter the SAS Demo User account (e.g., sasdmo). A Test Connection Successful message appears.

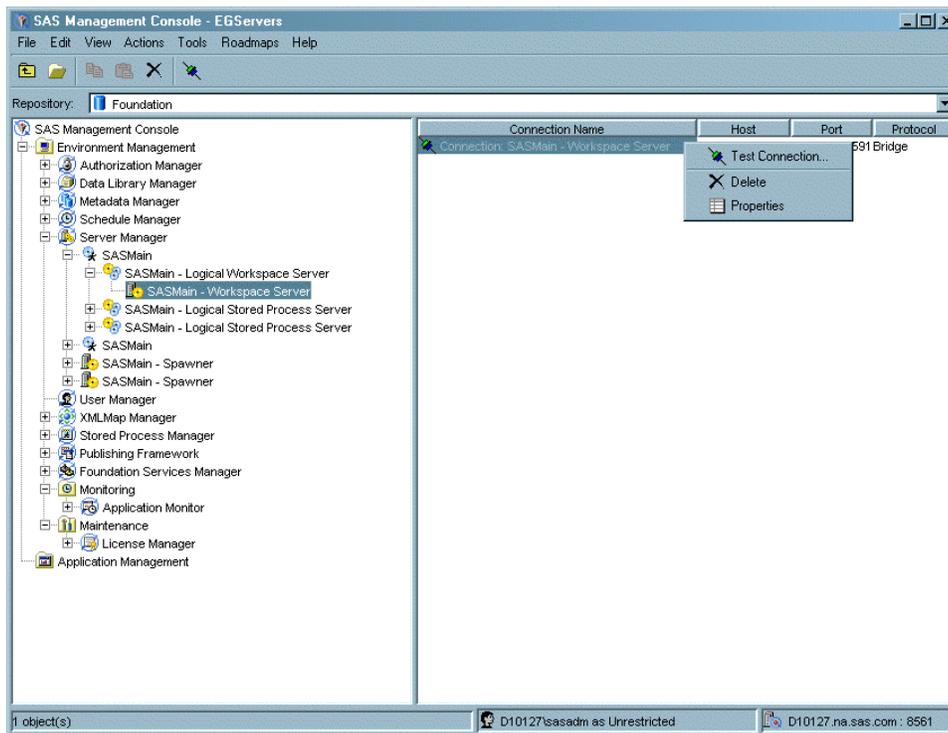


Figure 2. SAS Workspace Server: Test Connection

SAS Stored Process Server

Definition

The SAS Stored Process Server executes stored processes, which support input parameters. The SAS Object Spawner starts the SAS Stored Process Server. For more information about the SAS Stored Process Server, see the *SAS Integration Technologies Administrator's Guide*.

Test the SAS Stored Process Server Connection

You can test your connection to the SAS Stored Process Server by performing the following steps:

1. Start a SAS Management Console session, and log on as a SAS Administrator (e.g. *sasadm*).

2. Expand the **Server Manager** node.
3. Expand the **SASMain** node.
4. Expand the **SASMain-Logical Stored Process Server** node.
5. Select **SASMain-Stored Process Server**.
6. In the right panel, right-click **Connection: SASMain - Stored Process Server**.
7. Select **Test Connection** as shown in [Figure 3](#). A Test Connection Successful message appears.

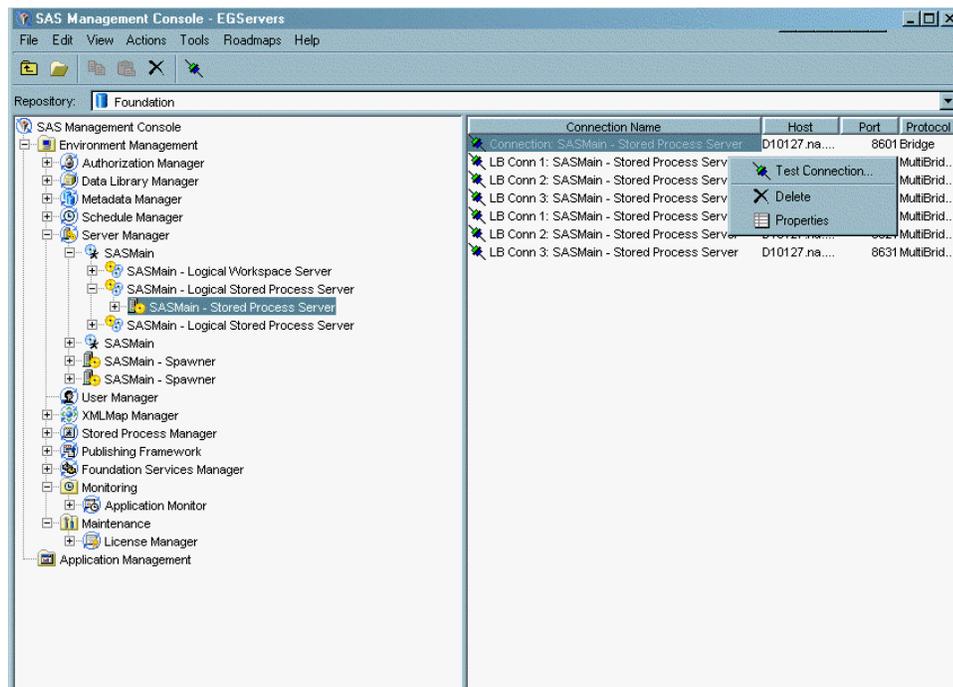


Figure 3. Stored Process Server: Test Connection

SAS Analytics Platform

Definition

The SAS Analytics Platform is a RMI middle-tier server that enables SAS Forecast Server to use the SAS Foundation Services. The SAS Forecast Server Mid-Tier must be installed on the same machine as the SAS Analytics Platform. You must start the SAS Analytics Platform before you start the SAS Forecast Studio client.

Start the SAS Analytics Platform

You can start the SAS Analytics Platform by performing the following steps:

Windows operating environment:

1. Navigate a shortcut that is created to where the SAS Analytics Platform is installed:

Start→ Programs→ SAS→ SAS Analytics Platform→ Start AP Server

2. If you are prompted for the user name and server location, then specify the following values:

User name: sasadm (SAS Administrative account) and click **Remember my password**.

Server: The server is the name of the server where the SAS Analytics Platform is running.

3. Click **LogOn** to start the SAS Analytics Platform.

UNIX operating environment:

1. Navigate to the installation directory of the SAS Analytics Platform (e.g., !SASROOT/SASAPCore/bin)
2. Run the command `./apserver start`. The server is ready to receive clients when the message “Waiting for clients” appears at the bottom of the screen.
Note: If you are running the SAS Analytics Platform as a background process, then you do not see this message.
3. If you chose not to persist the user credentials needed to start the server, then you are prompted for a user ID and password. Specify the SAS Administrator user ID (e.g., sasadm) and password. However, for this to work you need an X display session.

SAS Object Spawner

Definition

The SAS Object Spawner is a process-spawning service that represents object servers that use the IOM bridge protocol engine, such as the SAS Workspace Server and the SAS Stored Process Server. In effect, the object spawner is a daemon on the server that listens for incoming client requests for IOM services. When the daemon receives a request from a new client, it launches an instance of either a SAS Workspace Server or a SAS Stored Process Server to fulfill the request. After the request is fulfilled, and nothing else is in the spawner’s queue, then the spawner returns to its wait state. For more information about the SAS Object Spawner, refer to the *SAS Integration Technologies Administrator’s Guide*.

Start the SAS Object Spawner, SAS Workspace Server, and SAS Stored Process Server

Windows Operating Environment

If the SAS Object Spawner is running on a Windows machine and you choose to run the servers as services, then the servers start automatically when you restart your machine. When the SAS Object Spawner starts, then the SAS Workspace Server and the SAS Stored Process Server start automatically. However, you can stop or restart services by performing the following steps:

1. Navigate to the Services window:
Settings → **Control Panel** → **Administrative Tools** → **Services**.
2. Right-click the server item.
3. Select **Stop** or **Restart**.

If your server is running on a Windows machine and you have chosen to start the servers by using scripts, then start the servers by using the **Start** menu and selecting: **Start** → **Program** → **SAS** → *configuration-directory* → **Start SAS Object Spawner**.

UNIX Operating Environment

On a UNIX system, you start a server by performing the following steps:

1. Log on using the SAS installer account.
2. Change directories to *path-to-config-dir/Lev1/SASMain/ObjectSpawner*.
3. Execute the script in the directory that starts the server.

Create a SAS Forecast Server Project

You can verify the successful installation of SAS Forecast Server by starting the client on a Windows machine where you installed the client, and by creating a project.

1. You can start the SAS Forecast Studio client by performing the following steps:
 - (a) Navigate to the SAS Forecast Studio client by selecting:
Start → **Programs** → **SAS** → **SAS Forecast Studio** → **SAS Forecast Studio 1.4**.
 - (b) In the Log On dialog box, enter your user ID and password, and specify a server with a fully qualified *<server-name:port-number>* name.
 - (c) Click **Log On**.
2. To create a new project when you open SAS Forecast Studio, select **Create a new project** in the Welcome to SAS Forecast Studio dialog box.
3. Specify the name of the project such as **Test_Project**. By default, the project name is Project n , where n is the lowest available integer value. The project name must be a valid SAS name. The project name can be 32 characters long, and it must start with a letter (A-Z). Subsequent characters can be letters or numeric digits (0-9). Both upper- and lowercase letters are valid. Click Next.
4. In the New Project Wizard, select a data set by double-clicking the library **SASHELP**.
5. Select the data set **ORSALES**.
6. Assign variables to the following roles:
 - (a) Move the YEAR variable to the TIME_ID role.

- (b) Move the PROFIT variable to the DEPENDENT VARIABLE role.
- (c) Click **Next**.

7. Click **Next** to move to the next step.
8. Click **Next** to move to the next step.
9. Select **Produce Forecasts** and click **Finish**.

One series is forecasted, and your installation is complete and verified. For information about ongoing and optional administrative tasks, see the *SAS Forecast Server Administrator's Guide*.

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Your Turn

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