SAS® Forecast Analyst Workbench 5.1
System Administration Guide, Second Edition

Contents

Accessibility

For more information about accessibility of SAS Forecast Analyst Workbench, see SAS Forecast Analyst Workbench: User's Guide.

For more information about accessibility of any of the other products mentioned in this book, see the documentation for that product.

Recommended Reading

- *SAS Intelligence Platform: System Administration Guide*

- *SAS Data Integration Studio: User's Guide*

- *SAS Management Console: Guide to Users and Permissions*

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

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Part 1

Introduction to SAS Forecast Analyst Workbench

Chapter 1

Welcome to SAS Forecast Analyst Workbench

What is SAS Forecast Analyst Workbench?

SAS Forecast Analyst Workbench is an analytical forecasting solution that uses actual demand to generate predicted demand. By forecasting the demand, you can perform downstream planning that provides you with the following results:

- a reduction in stock orders of inventory

- a significant reduction in customer back orders

- a reduction in finished goods inventory

- consistently high levels of customer service, which results in high customer retention

SAS Forecast Analyst Workbench is an Adobe Flex client application. Users within your organization can access different parts of the solution based on their permissions. Users can view, review, interpret, and analyze the results of the forecasting process.

Functional Components of SAS Forecast Analyst Workbench

SAS Forecast Analyst Workbench includes the following main functional components:

data warehousing
: the ongoing ETL jobs update the data warehouse with changes from the source system

analytics
: the analytical procedures that are required for forecasting processes

Client applications
: the SAS Forecast Analyst Workbench middle tier and client tier

These components are seamlessly integrated to offer a true end-to-end solution. SAS Forecast Analyst Workbench can take data from several source systems and provide information for advanced business decisions.

Chapter 2
SAS Forecast Analyst Workbench Architecture

Overview of the Architecture of SAS Forecast Analyst Workbench

SAS Forecast Analyst Workbench uses an n-tier architecture that consists of the following tiers:

- client tier

- middle tier

- server tier

- data tier

The following figure shows the products and solutions that comprise each tier and how the tiers interact.

Figure 2.1 *SAS Forecast Analyst Workbench Architecture*
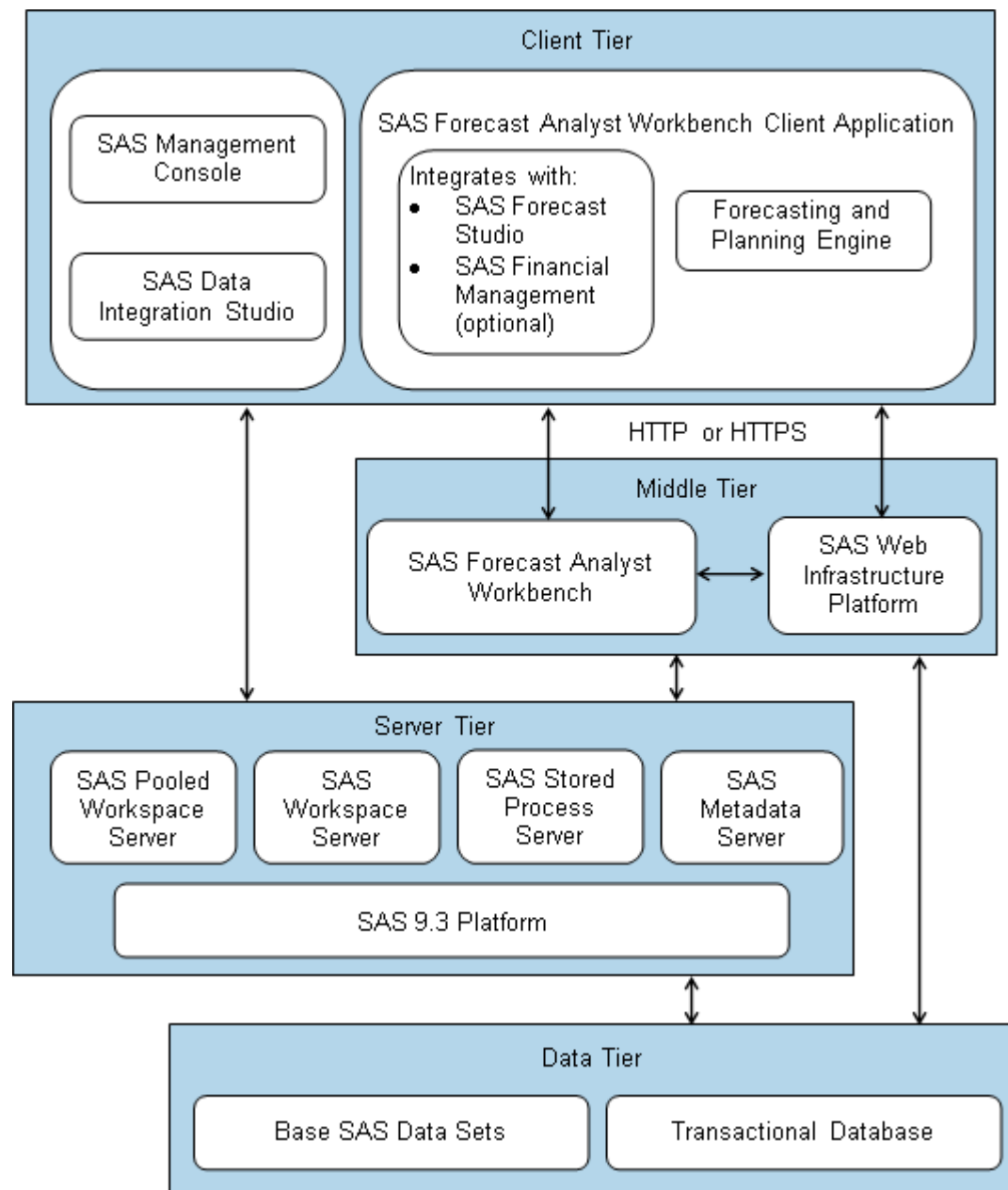
Client Tier

The client tier is responsible for user interaction, navigation flows, and displaying computational results.

SAS Forecast Analyst Workbench requires the following applications:

- **SAS Management Console**: Enables you to perform metadata administration activities.

- **SAS Data Integration Studio**: Provides the ability to manage ETL jobs for the extraction, transformation, and loading of data.

- **SAS Forecast Studio**: Enables you to use the forecasting capabilities of SAS Forecast Studio and to integrate the forecasted output in SAS Forecast Analyst Workbench.

- **SAS Financial Management**: Enables you to use the capabilities of SAS Financial Management for the consensus planning process. Depending on the license that your organization has purchased, SAS Financial Management might be included in the order.

Middle Tier

The middle tier is responsible for receiving the client request and for providing an execution environment to the client. The middle tier of SAS Forecast Analyst Workbench was developed over SAS Intelligence Platform middle-tier technologies such as SAS Web Infrastructure Platform and SAS Foundation Services. These services make it possible for the middle-tier application to run requests over SAS servers.

SAS Forecast Analyst Workbench requires the following middle-tier components:

- **SAS Forecast Analyst Workbench Services**: Takes adequate server-side actions based on client-side actions.

- **SAS Web Infrastructure Platform Services**: Used for standard operations, such as configuration, authentication, scheduler for batch processing, and so on.

  Middle-tier components use the HTTP-based protocol to communicate with the following services that are based on Web Infrastructure Platform: Authentication Service and UserInfo Service

The client tier communicates with the middle tier by using an HTTP-based or an HTTPS-based communication model.

Server Tier

The server tier hosts various SAS servers that run the requests that are made by clients. Topological support might include support for non-functional requirements, such as fail-over, pooling, and load balancing.

SAS Forecast Analyst Workbench requires the following server-tier components:

- **SAS Pooled Workspace Server**: Enables the middle tier to connect to SAS data sets to access the forecasted data.

- **SAS Workspace Server**: Executes SAS code for a client at a time.

- **SAS Stored Process Server**: Runs a registered stored process.

- **SAS Metadata Server**: Controls access to a central repository of metadata that is shared by all of the SAS applications in the deployment. The SAS Metadata Server enables centralized control so that all users access consistent and accurate data.

Data Tier

The data tier consists of the following data storage types:

- **Base SAS data sets**: Stored in Base SAS formats using different libraries.

- **Transactional database**: Stores the transactional data that is used for forecasting. You can use MySQL as a transactional database for SAS Forecast Analyst Workbench.

Part 2

Pre-installation Tasks

Chapter 3
Performing Pre-installation Tasks

Overview of Pre-installation Tasks

Before you install SAS Intelligence Platform and SAS Forecast Analyst Workbench, you must complete the following pre-installation tasks:

- verify the operating system requirements

- complete the pre-installation tasks that are required for installing SAS Intelligence Platform

- install third-party components

- create a SAS Forecast Analyst Workbench user

- create a software depot

- install and configure a transactional database

- obtain a deployment plan

Verifying System Requirements

Before you install SAS Forecast Analyst Workbench, ensure that you meet the minimum system requirements that are described in *SAS Forecast Analyst Workbench 5.1: System*

Requirements. System requirements are unique for each operating system. Items that are addressed as system requirements include software requirements, hardware requirements, space requirements, specific product requirements, and graphics hardware and software compatibility.

Detailed system requirements for SAS Forecast Analyst Workbench are available at **http://support.sas.com/documentation/installcenter/en/ ikforecstanofrsr/65429/HTML/default/index.html**.

You should specifically check the following settings:

- Set the screen resolution for SAS Forecast Analyst Workbench no lower than 1024 x 768.

- Set your browser's pop-up blocker to allow pop-ups for your applications.

For more requirements information, see "SAS 9.3 System Requirements" at **http:// support.sas.com/resources/sysreq/index.html**.

Completing the Pre-installation Tasks for the SAS Intelligence Platform

Before you install the SAS Intelligence Platform and SAS Forecast Analyst Workbench, read the *SAS Intelligence Platform: Overview*. The overview is available at **http:// support.sas.com/documentation/cdl/en/biov/63143/HTML/default/ viewer.htm**. SAS Forecast Analyst Workbench is designed to work with the SAS Intelligence Platform. The overview will help you understand pre-installation tasks and will guide you through a typical installation.

The pre-installation tasks include installing third-party components, confirming your operating system requirements, creating the required user accounts, and obtaining your SAS software. For more information, see the *SAS Intelligence Platform: Installation and Configuration Guide*. This document is available at **http://support.sas.com/ documentation/onlinedoc/intellplatform/**.

You can also use the Pre-Installation Checklist that accompanies the Deployment Plan that was prepared for deployment of SAS Forecast Analyst Workbench at your site. You must complete the work in the checklist before beginning the deployment at your site. The list includes tasks that are specific to your deployment, information about the third-party software required on each tier in your deployment, the required operating system accounts and groups needed on each machine, and port numbers needed on each machine before starting the deployment.

Installing Third-Party Components

As a part of the pre-installation tasks, you must install the third-party components. SAS Forecast Analyst Workbench uses the Java Development Kit (JDK) and a Web application server. You must install these components on a server that you are using as the middle tier. For more information about installing the third-party components, see the pre-installation checklist that comes with the deployment plan.

You must install the JDK. To determine which version of the JDK that you should install, go to **http://support.sas.com/resources/ thirdpartysupport/v93/jdks.html**.

SAS Forecast Analyst Workbench requires a Web application server. For more information about the Web application servers, go to **http://support.sas.com/ resources/thirdpartysupport/v93/appservers/index.html**.

Creating a SAS Forecast Analyst Workbench User

You must create an operating system user account that will be used to prepare SAS Forecast Analyst Workbench for use by running a series of ETL jobs. You can use an existing user account if one already exists. This user is different from the user account that installs and configures SAS Forecast Analyst Workbench and the SAS Spawned Servers account (sassrv). You can use the SAS Demo User account suggested in the Pre-Installation Checklist. For more information about creating the ETL Users Group and adding users in it, see "Create SAS Forecast Analyst Workbench Groups" on page 30

For more information about users and groups, see "Setting Up Users, Groups, and Ports" in the *SAS Intelligence Platform: Installation and Configuration Guide*.

Creating a SAS Software Depot

Download the software that is listed in your SAS Software Order with the SAS Download Manager. This process creates a SAS Software Depot, which includes the SAS installation data (SID) file. The SID file is used by the SAS system to install and license SAS software. It is a control file that contains license information that is required to install SAS. After you have downloaded the SAS Software Depot, you can then use the SAS Deployment Wizard to install your software. For more information, see "Creating SAS Software Depots" in the *SAS Intelligence Platform: Installation and Configuration Guide*. The guide is available at **http://support.sas.com/ documentation/onlinedoc/intellplatform/**.

Installing and Configuring a Transactional Database

You can use MySQL database server as a transactional database for SAS Forecast Analyst Workbench. This section gives detailed information about installing and configuring MySQL database server.

Installing and Configuring the MySQL Database Server

Install the MySQL Database Server
You can use MySQL database server 5.1.55 as a transactional database for SAS Forecast Analyst Workbench. Double-click the installer file and install the MySQL database server. At the end of the installation, choose to configure the MySQL database server.

Configure the MySQL Database Server
When you configure the MySQL database server, you must select the following parameters in the MySQL Server Instance Configuration Wizard:

- select **Detailed Configuration**

- select **Server Machine** as the server type

- select the **Transaction Database Only** option as the database that you will use

- select the **Manual Setting** option, and then specify **300** concurrent connections

  Note: If you are using the same MySQL database server to perform consensus planning using SAS Financial Management, the concurrent connections must be greater than 500.

- select the **Enable TCP/IP Networking** check box, specify the port number, and then select **Add the firewall exception for this port** check box

- select the **Best Support for Multilingualism** option

- select the **Include Bin Directory in the Windows PATH** check box

- select the **Modify Security Settings** check box, enter and confirm the root password, and then select **Enable root access from remote machines** check box

After you install and configure the MySQL database server, you can confirm the installation on the command prompt.

For more information about installing and configuring the MySQL database server, see *MySQL Database Server Installation Guide for SAS Financial Management, SAS Human Capital Management, and SAS Strategy Management*. The guide is available at the following password-protected URL:

http://support.sas.com/documentation/onlinedoc/fm/index.html

Create the MySQL Database and Grant Permissions

You must first install the MySQL JDBC driver. You can download the MySQL Connector/J JDBC driver at **http://dev.mysql.com/downloads/ connector/j/**.

After you install MySQL Connector/J JDBC driver, you can create a MySQL database named **fawdb**. Before running the SAS Deployment Wizard, you must have a user ID with permission to access and create tables.

After installing MySQL database server and before running SAS Deployment Wizard, you must create a MySQL database for SAS Forecast Analyst Workbench. You can use **fawdb** as the name of the database. You must also have a user ID with permissions to access and create tables in the fawdb database.

To create the MySQL database:

1. Log on to MySQL as the root user.

2. To create the database, use the following sample command to create the database: **create database fawdb;**.

3. Create a user that has access to the target database.

   grant all privileges on fawdb.* to 'fawadmin'@'%' identified by 'PASSWORD' with grant option;

   Note: If you are also installing other SAS solutions (for example, SAS Inventory Optimization) that use the MySQL database server as the transactional database, the user ID of the MySQL database server for SAS Forecast Analyst Workbench must be unique.

The file my.cnf is the default configuration file that has all the required parameters to start MySQL server. Make sure that the parameter lower_case_table_names=1 is

included in the file my.cnf. After you make the change, you need to restart the MySQL service.

Obtaining a Deployment Plan

Before you can install SAS Forecast Analyst Workbench, you must obtain a deployment plan. The deployment plan is a summary of the software that you install and configure during the deployment. The deployment plan file, named plan.xml, contains information about what software you should install and configure on each machine in your environment. This plan serves as input to the SAS installation and configuration tools. SAS includes a standard deployment plan. You should use the deployment plan that is created for your site. The deployment plan is accompanied by the pre-installation checklist. For more information, see "About Deployment Plans" in the *SAS Intelligence Platform: Installation and Configuration Guide*. The guide is available at **http://support.sas.com/documentation/onlinedoc/intellplatform/**.

About Migration

You can migrate SAS Forecast Analyst Workbench from one machine to another machine. When you are performing the migration, you must select a valid migration package.

Note: You can review migration information for the SAS Intelligence Platform at: **http://support.sas.com/software/maintenance**.

Part 3

Installation Tasks

Chapter 4
Installing SAS Forecast Analyst Workbench

Selecting a Single-Tier or Multi-Tier Installation

You can install SAS Forecast Analyst Workbench on one or on several machines. This choice is determined at the time you order SAS Forecast Analyst Workbench and is detailed in the deployment plan. You must first install SAS Forecast Analyst Workbench on the server tier, which can consist of multiple machines. You can then install SAS Forecast Analyst Workbench on your middle tier, which can also consist of multiple machines. 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 you install as a part of the SAS Intelligence Platform. These servers host (and can be used to load) the reporting data. In addition, they execute SAS analytical and reporting processes. The SAS Workspace Server, SAS Stored Process Server, and SAS Metadata Server enable this capability.

The middle tier hosts SAS Web applications, including SAS Forecast Analyst Workbench Web application. These Web applications are deployed on a Java Web application server. The Web application sends data to and receives data from the Web browsers on the client machines. It then organizes the data for storage on the data tier and for use on the server tier.

The client tier is also part of the SAS Forecast Analyst Workbench configuration. On the client tier, users collect and load data and perform day-to-day operational tasks via the Web application.

Integrating SAS Forecast Analyst Workbench with SAS Inventory Optimization

In the sales and operations planning process within your organization, you can use SAS Forecast Analyst Workbench with other SAS products and solutions (such as SAS Inventory Optimization) to perform further analysis. In order to use SAS Inventory Optimization with SAS Forecast Analyst Workbench to perform further analysis, you must install and configure SAS Inventory Optimization differently. You should read the technical paper before installing and configuring SAS Forecast Analyst Workbench and SAS Inventory Optimization. The technical paper is available at the following location:

http://support.sas.com/documentation/onlinedoc/faw/index.html

You can also read the guidelines about integrating SAS Forecast Analyst Workbench with SAS Inventory Optimization that are given in the *SAS Forecast Analyst Workbench: Data Administration Guide*.

SAS Deployment Wizard Tasks

You use the SAS Deployment Wizard to install and configure the SAS software and related products that are included in your deployment plan. 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 immediately, or you can configure the software at a later time.

Depending on your SAS software order, the SAS installation data file, and the deployment plan, the SAS Deployment Wizard prompts you to perform a variety of tasks, including the following items:

- specify the location of the deployment plan and the SAS software products that you are installing and configuring

- specify the location of the third-party products that you have installed, such as JBoss or the Java Development Kit

- specify required machine information

- specify server information for any SAS servers that you are installing

- specify user account information

  Note: Specify the spawned server user to access and perform tasks related to stored processes.

- specify the database that you are installing (select MySQL database server)

- select the **Grant access to SAS Forecast Studio tasks** check box and create an environment for SAS Forecast Server

- specify a SAS internal account for the forecast server metadata user

- select database type for SAS Forecast Analyst Workbench and connection parameters for MySQL database server, such as database name, host name, and port.

- specify the connection information for SAS Forecast Analyst Workbench server configuration database JDBC connection

- specify the connection information for the JDBC driver for the SAS Forecast Analyst Workbench middle-tier database

- specify the e-mail address to which SAS Forecast Analyst Workbench should send e-mails when an ad hoc scenario has completed running in the background

For more information, see "Preparing to Install and to Configure" in the *SAS Intelligence Platform: Installation and Configuration Guide*. This document is available at **http://support.sas.com/documentation/onlinedoc/intellplatform/index.html**.

Determining the Location of the SAS Environment URL

During the deployment process, the SAS Deployment Wizard prompts you to specify the URL of the SAS environment file, which is named sas-environment.xml (for example, **http://<*your HTTP server*>:<port>/SASLogon/sas-environment.xml**). This file defines a set of SAS deployments at your site for client applications to use.

The sas-environment.xml file does not need to physically exist at the URL location that you specify in the SAS Deployment Wizard before you begin the SAS installation. However, knowing the value of this URL is important because every client installation is prompted for this value. If you do not specify the URL when you install SAS Forecast Analyst Workbench, then you must manually edit a file on every client machine as a post-installation task. Therefore, you should decide on a value for this URL during your planning process so that you can provide it to administrators who might be performing an installation.

For more information about the structure of this file, see "Configuring the SAS Environment File" in the *SAS Intelligence Platform: Middle-Tier Administration Guide*. This guide is available at **http://support.sas.com/documentation/onlinedoc/intellplatform/**.

Installing Additional SAS Products

When you install SAS Forecast Analyst Workbench, you also install additional SAS products. During the installation process , the SAS Deployment Wizard prompts you to install and possibly configure each of these SAS products. Here are some of the products that are installed as part of the SAS Forecast Analyst Workbench installation:

- SAS Foundation 9.3

- SAS Management Console

- SAS Data Integration Studio

- SAS Forecast Studio

Reviewing the Instructions.html Document

After you have installed and configured your SAS software, the SAS Deployment Wizard writes the Instructions.html document to the **Documents** directory in your SAS configuration directory. The document contains additional information and details for configuring your installation. You should perform the additional steps that are included in the document.

Default File Locations

The SAS Deployment Wizard installs and configures your SAS software. The application installation files are installed in a default location referred to as **<SAS Home>**. For example, on Windows systems, **<SAS Home>** is **C:/Program Files/ SASHome**.

The configuration files are stored in a default location referred to as **<SAS configuration directory>**. For example, on Windows systems, the SAS configuration directory is **C:/SAS/Config/Lev1**.

Note: You can deploy up to 10 configurations of the SAS products. For example, you can create an environment that consists of separate levels for development, test, and production. The SAS Deployment Wizard specifies each configuration in a **<Level>** folder. For example, if you deploy a level 2 configuration, the default configuration directory is **C:/SAS/Config/Lev2**. For more information about multiple-level configuration, see the *SAS Intelligence Platform: System Administration Guide*.

The following table lists the default locations of the installation and configuration files for SAS Forecast Analyst Workbench.

Table 4.1 *Default Locations*

Location	Example Path on Windows Systems	Example Path on UNIX Systems
!SASROOT	`C:/Program Files/ SASHome/ SASFoundation/9.3`	`../SASHome/ SASFoundation/9.3`
<SASCONFIG>	`C:/SAS/Config/Lev<n>`	`../SAS/Config/Lev<n>`

Part 4

Post-installation Tasks

Chapter 5
Verifying Permissions Granted to Users

Assigning Permissions to Users

Assign Permissions to the SAS Server Users Group on Windows Systems

You must assign the SAS server users group Read, Write, and Modify permissions for the following folders on Windows systems:

- the SAS Forecast Analyst Workbench data folder located at **`<SASCONFIG>/Lev<n>/AppData/SASForecastAnalystWorkbench/data`**

- the SAS Financial Management data folder located at **`<SASCONFIG>/Lev<n>/SASApp/Data`**

  Note: If you are not using consensus planning, you do not need to provide permission for this folder.

For more information, go to **`http://support.sas.com/documentation/cdl/en/biig/62611/HTML/default/viewer.htm#n02014intelplatform00install.htm`**.

Assign SAS Users Permissions on UNIX Systems

In a UNIX operating environment, you need to update some SAS script files. Updating the files ensures that SAS users have the necessary Write permissions to the tables that the SAS Workspace Server and the SAS Stored Process Server create.

Specify the umask setting `002` in the following SAS scripts:

- `<SASCONFIG>/Lev<n>/SASApp/BatchServer/sasbatch_usermods.sh`

- `<SASCONFIG>/Lev<n>/PooledWorkspaceServer/PooledWorkspaceServer_`
  `usermodes.sh`

- `<SASCONFIG>/Lev<n>/StoredProcessServer/StoredProcessServer_`
  `usermods.sh`

- `<SASCONFIG>/Lev<n>/WorkspaceServer/WorkspaceServer_`
  `usermodes.sh`

Assign Permissions to the SAS Financial Management Solutions Host User on Remote Services

When you are using SAS Financial Management for consensus planning, you must assign the Solutions Host User (slnhost) ReadMetadata, WriteMetadata, and CheckInMetadata permissions.

To assign the Solutions Host User these permissions:

1. Log on to SAS Management Console as an unrestricted administrator (sasadm) or as a user who has the capability to assign permissions.

2. On the **Plug-ins** tab, select **Environment Management** ⇨ **Foundation Services Manager** ⇨ **Remote services**.

3. Right-click **Remove Services**, and then click **Properties**. The Remote Services Properties dialog box appears.

4. On the **Authorization** tab, click **Add**, and then select the SAS Financial Management Solutions Host User.

5. Click **OK**.

6. In the **Effective Permissions** section on the **Authorization** tab, select the **Grant** check boxes for **ReadMeradata**, **WriteMetadata**, and **CheckInMetadata** for the SAS Financial Management Solutions Host User.

7. Click **OK**.

The ReadMetadata, WriteMetadata, and CheckInMetadata permissions are assigned to the SAS Financial Management Solutions Host User.

Assigning Roles and Groups to the Solutions Host User

When you are using SAS Financial Management to perform consensus planning, you must assign the following roles and groups to the Solutions Host User:

- Solution Services: Administrators

- Financial Management: Process Administrator

- Forecast Analyst: MySQL User Group

- SASSDM MySQL Users

Defining Groups, Roles, and Users

Overview of Groups, Roles, and Users

In order to use SAS Forecast Analyst Workbench, you must configure groups, roles, and users.

Groups

A group is a group of users who are classified by common traits or by common data access levels. Groups are typically used for granting users access to data. Groups can also be used within workflows to allow a restricted set of users to perform an activity.

Roles

A role provides a grouping functionality. Roles determine what a user can do within the application. Roles can also be used within workflows to allow a restricted set of users to perform an activity.

Users

Every user who needs to log on to the SAS Forecast Analyst Workbench Web application must be defined in the SAS Metadata Repository. The user must be associated with one or more roles that have one or more capabilities within SAS Forecast Analyst Workbench.

You define groups, roles, and users by using the User Manager function in SAS Management Console, as shown in the following display.

Display 5.1 *User Manager in SAS Management Console*
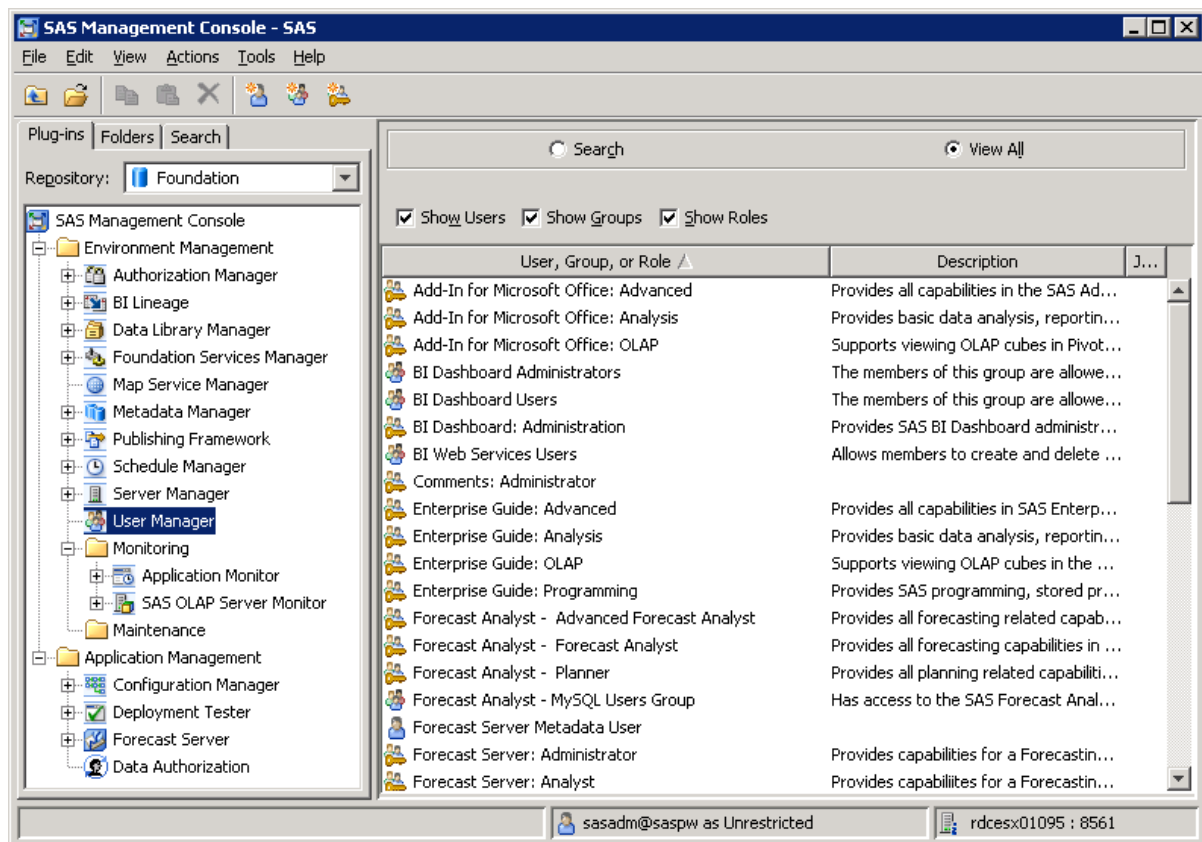
Note: For specific information about defining users, groups, and roles, see the *SAS Management Console: Guide to Users and Permissions*.

Capabilities can be associated with roles in SAS Management Console, as shown in the following display.

Display 5.2   Associating Capabilities with Roles
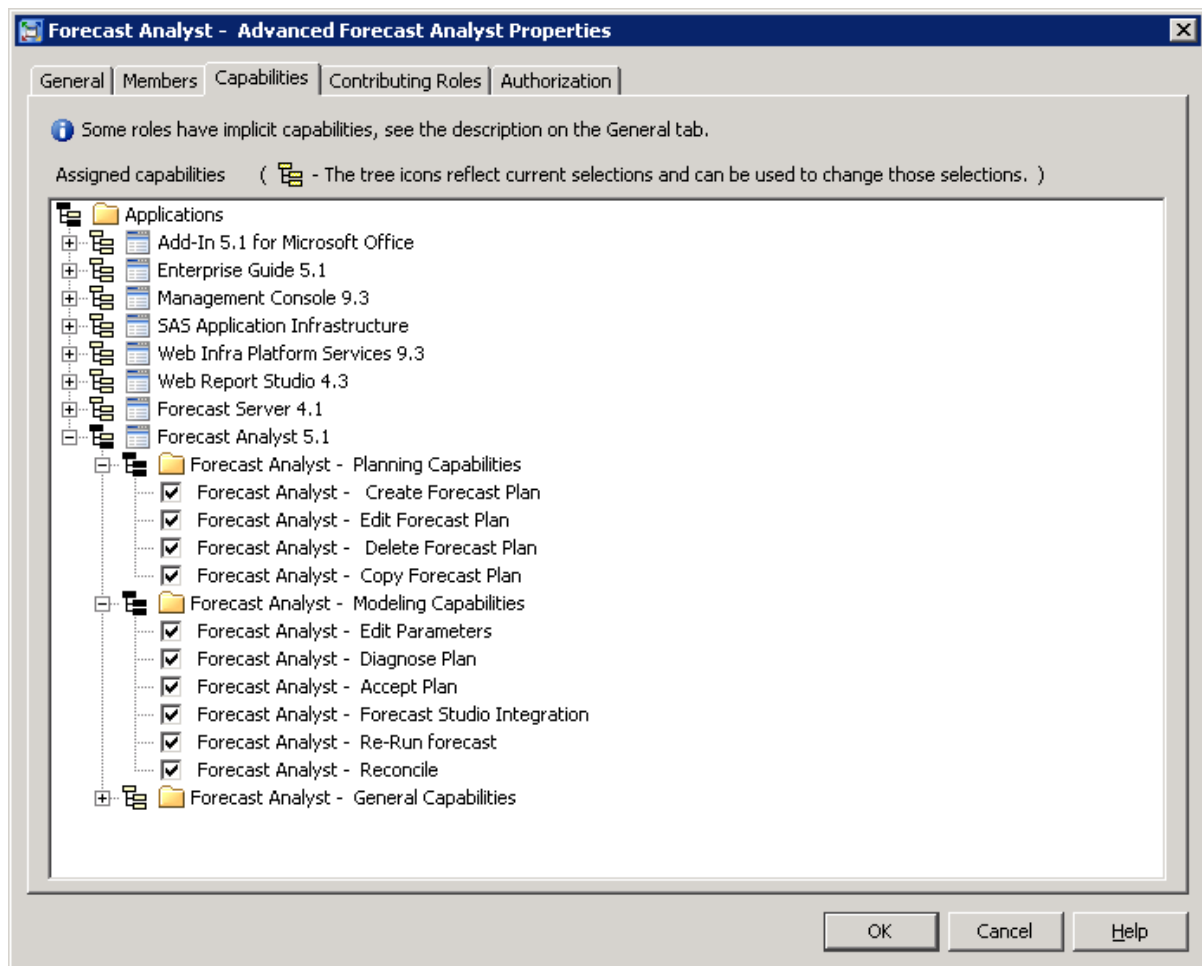
Groups, roles, and users can be referenced in user interface definitions.

Understanding Roles

Roles in SAS Forecast Analyst Workbench are activity based. You assign roles to users, and those role assignments are cumulative. For example, if a user is assigned to more than one role, that user does not lose any capabilities if the capabilities of the roles are different. For example, if role 1 grants a user a specific capability but role 2 does not, the user retains that capability.

After you deploy SAS Forecast Analyst Workbench, ensure that the following roles are created in SAS Management Console:

• Forecast Analyst – Planner

• Forecast Analyst – Forecast Analyst

• Forecast Analyst – Advanced Forecast Analyst

In addition to the roles that are created after you deploy SAS Forecast Analyst Workbench, you can create roles that are based on your business requirements. For more information about creating roles, see *SAS Management Console: Guide to Users and Permissions*.

Create SAS Forecast Analyst Workbench Groups

If you are using MySQL as your transactional database, ensure that the Forecast Analyst – MySQL Users Group was created in SAS Management Console after you deploy SAS Forecast Analyst Workbench.

In addition to the groups that are created during deployment, you should create three groups. By creating these groups and adding the required users, groups, and roles to them, you ensure that appropriate job segregation occurs. You should create the following groups in order to work with SAS Forecast Analyst Workbench:

ETL Users Group
Create this group for users that are permitted to run ETL jobs for SAS Forecast Analyst Workbench. You should add the following groups and roles to this group:

- Forecast Analyst – MySQL Users Group

- SAS Administrators

- Financial Management: Process Administrator

- SASSDM MySQL Users

Note: If you deploy SAS Forecast Analyst Workbench without consensus planning, the SASSDM MySQL Users and Financial Management: Process Administrator groups are not available.

T I P In order to complete the preparation of SAS Forecast Analyst Workbench, you must run ETL jobs to initialize the system. In order to run those ETL jobs, a user that belongs to the ETL Users Group must be available. If you specified to create a SAS Demo User account in the SAS Deployment Wizard, you can add that account as a member of the ETL Users Group and use it to run the ETL jobs. After you have identified the users who will be allowed to run ETL jobs, you can add them to this group and remove the SAS Demo User account. If you did not create a SAS Demo User account during the deployment process, you must add a user to the metadata and make that user a member of the ETL Users Group in order to run the ETL jobs.

Planning User Group
Create this group for users who will be performing forecast planning and consensus planning. You should add the following groups and roles to this group:

- Forecast Analyst – MySQL Users Group

- Forecast Analyst – Planner

- Financial Management: Process Administrator

- SASSDM MySQL Users

Note: If you deploy SAS Forecast Analyst Workbench without consensus planning, the SASSDM MySQL Users and Financial Management: Process Administrator groups are not available.

Analyst User Group
Create this group for users who will be performing data analysis and model management tasks. You should add the following groups and roles to this group:

- Forecast Analyst – MSQL Users Group

- Forecast Analyst – Advanced Forecast Analyst

- Forecast Analyst – Forecast Analyst

- Forecast Server Administrator

- Forecast Server Analyst

- Forecast Server Browser

- Forecast Server Forecaster

- Job Execution: Job Submitter

Note: You must provide ReadMetadata, WriteMetadata, CheckInMetadata, and Read permissions in the ABT library to the Analyst User Group. For more information about granting permissions, see "Assign Metadata-Related Permissions to Analyst User Group" on page 31.

For more information about creating groups and adding groups and roles to them, see *SAS Management Console: Guide to Users and Permissions*.

Defining Users

You can create users who can access SAS Forecast Analyst Workbench. When you define users who can access SAS Forecast Analyst Workbench, you must conform to the following guidelines:

- the user must be a user of your operating system

- after you add the user, you must assign appropriate groups and roles to that user

For more information about creating users and assigning groups and roles to them, see *SAS Management Console: Guide to Users and Permissions*.

Assign Metadata-Related Permissions to Analyst User Group

You must assign ReadMetadata, WriteMetadata, CheckInMetadata, and Read permissions for the ABT library to the Analyst User Group.

To assign these permissions:

1. Log on to SAS Management Console as an unrestricted administrator (sasadm) or as a user who has the capability to assign metadata permissions.

2. On the **Plug-ins** tab, select **Environment Management** ⇨ **Data Library Manager** ⇨ **Libraries** ⇨ **ABT**.

3. Right-click **ABT** and select **Properties**. The ABT Properties dialog box appears.

4. In the ABT Properties dialog box, click the **Authorization** tab.

5. On the Authorization tab, click **Add**. The Add Users and Groups dialog box appears.

6. Select **Analyst User Group** in the **Available Identities** column, add it to **Selected Identities** column, and then click **OK**. The **Analyst User Group** appears in the **Users and Groups** section of the **Authorization** tab.

7. Select **Analyst Users Group** and grant permissions for **ReadMetadata**, **WriteMetadata**, **CheckInMetadata**, and **Read** in the **Effective Permissions** section of the **Authorization** tab.

8. Click **OK**.

Chapter 6

Configuring SAS Forecast Analyst Workbench Parameters

Configure Parameters

SAS Forecast Analyst Workbench enables you to configure parameters related to ETL, the transactional database, SAS Forecast Studio, and SAS Financial Management. You should configure these parameters once to meet your business requirements. The ETL and all analytical processes use these parameters for the following purposes:

- extracting data from the solution data layer (SDL) correctly

- acquiring correct paths for SAS Forecast Studio and SAS Financial Management integrations

- accessing the transactional database MySQL

- improving performance

You must configure these parameters before you start any SAS Forecast Analyst Workbench processes.

To configure the parameters:

1. Open SAS Management Console as an unrestricted administrator (sasadm) or as a user who has the capability to configure the parameters.

2. On the **Plug-ins** tab, select **Application Management** ⇨ **Configuration Manager** ⇨ **Forecast Analyst Server 5.1**.

3. Right-click **Forecast Analyst Server 5.1** and click **Properties**. The Forecast Analyst Server 5.1 Properties dialog box appears.

4. In the Forecast Analyst Server 5.1 Properties dialog box, click the **Advanced** tab and configure the parameters by entering information in the **Property Value** column.

   Note: The properties have default values. You can change these values if the default values are not suitable for your environment.

Display 6.1 Configuration Parameters

For more information about configuration parameters, see "About the Configuration Parameters" on page 34.

5. Click **OK**.

The configuration parameters are defined.

About the Configuration Parameters

The following table describes each configuration parameter and shows the default value.

Table 6.1 *Configuration Parameters*

Parameter	Description	Example of the Parameter Value
GLOBAL_HIGH_ DTTM_VALUE	Specifies a globally conventional high date (datetime format) to identify valid records	"01JAN5999:00:00:00"DT
GL_ATTRIB_ SELECT_TYPE_ THRESHOLD	Specifies the maximum number of attribute values to be displayed as a list in the user interface. If the number of values is greater than this number, the values are displayed in a range filter.	3
GL_DATA_ STORAGE_PATH	Specifies the path in the environment where all the hierarchical forecasting data sets are created. This path includes actual and predicted results, along with model repositories and events data.	`C:\SAS\Config` `\Lev1\AppData` `\SASForecastAnalystWo` `rkbench\data`
GL_DAY_BASE_ PERIOD	Specifies a short value to indicate the DAY base period.	D
GL_DDCF_LOG_ CREATION_ FLAG	Specifies whether logs should be created at the location that is specified by the GL_FORECAST_LOG_PATH parameter. The possible values are specified by the GL_SHORT_YES and GL_SHORT_NO parameters.	N
GL_FM_ COMPLEX_ EXCHANGE_ RATE	Specifies the complex exchange rate selection for SAS Financial Management.	Y
GL_FM_ DEFAULT_ COUNTRY_CD	Specifies the default country code for SAS Financial Management.	US
GL_FM_ DEFAULT_ LANGUAGE_CD	Specifies the default language code for SAS Financial Management.	en
GL_FM_MYSQL_ AUTH_DOMAIN	Specifies the authentication domain for the MySQL database server for SAS Financial Management.	"mysqlauth"
GL_FM_MYSQL_ SERVER	Specifies the host name where MySQL is installed for SAS Financial Management.	hostname.company.com
GL_FM_ SASSUP_PATH	Specifies the path of the library that is supplied by SAS for SAS Financial Management services. Ensure that the path points to the correct location of SASSUP library of SAS Financial Management.	`C:\Program Files` `\SASHome` `\SASFoundation` `\9.3\soltnsdata` `\sashelp`
GL_FM_STAGE_ PATH	Specifies the path of the stage library for SAS Financial Management services. Ensure that the path points to the correct location of stage library of SAS Financial Management.	`C:\SAS\Config` `\Lev1\SASApp\Data` `\SolutionsServices` `\stagedds`

Parameter	Description	Example of the Parameter Value
GL_FORECAST_ DATE	Specifies a date to be used as the forecast date. The forecast starts from the date that you specify. The default value of this parameter is the current date. However, you can provide a specific date (for example, 01JAN2011).	today()
GL_FORECAST_ LOG_PATH	Specifies the path where logs should be generated. You can use this parameter when you set the GL_OPT_FLAG parameter to `Yes`.	`C:\SAS\Config` `\Lev1\AppData` `\SASForecastAnalystWo` `rkbench\HPFLog`
GL_FORECAST_ THREADS_NO	Specifies the number of threads (sessions) to be created for forecasting. This value is used for processing forecast data sets or time series in parallel.	1
GL_ FRAMEWORK_ DB_IND	Specifies whether SAS Framework Data Server is used. *Note:* You must always set this parameter to N because MySQL is used as a transactional database.	N
GL_FS_PROJ_ ENV_DESC	Specifies the description to be assigned to the SAS Forecast Studio environment specified by the GL_FS_PROJ_ENV_NM parameter.	FAW Environment
GL_FS_PROJ_ ENV_NM	Specifies the name of the SAS Forecast Studio environment to be created.	FAW
GL_FS_PROJ_ REPO_PATH	Specifies an absolute path, written in UNIX format to the Base SAS Folder in the metadata, at which searches for reports will start.	`/System/` `Applications/SAS` `Forecast Server/` `Forecast Server 4.1`
GL_FS_PROJ_ SASENVIRONMENT	Specifies the name of the SAS environment that contains the SAS Forecast Server middle tier. This value is case sensitive.	default
GL_INCLUDE_ ARCHIVE_IND	Specifies whether to include the archive functionality. The values are 0 or 1. The value 1 indicates to use archive functionality and the value 0 indicates that archiving should not be used.	1
GL_INCLUDE_ SEEDING_IND	Specifies whether seeding should be done. The values are 1 or 0. The value 1 indicates that seeding is enabled and the value 0 indicates that seeding is disabled.	1
GL_MTH_BASE_ PERIOD	Specifies a short value to indicate a MONTH base period.	M
GL_MYSQL_ DBCONINIT	Specifies the DBCONINIT option for the MySQL database. If you are using the data that is in English, specify `"set names 'latin1'"`, if the data is in Japanese, specify `"set names 'ujis'"`, if the data is in German, specify `"set names 'latin1'"`, if the data is in Korean, specify `"set names 'euckr'"`, and if the data is in Simplified Chinese, specify `"set names 'gb2312'"`.	"set names 'latin1'"

Parameter	Description	Example of the Parameter Value
GL_MYSQL_ INSERTBUFF	Specifies the InsertBuff option for the MySQL database.	5000
GL_OPT_FLAG	Specifies whether parallel processing optimization techniques should be used for forecasting. The possible values are as specified by the GL_SHORT_YES and GL_SHORT_NO parameters. *Note:* Set this parameter after you deploy SAS Forecast Analyst Workbench and do not change it. The process optimization technique is applicable to the plans that are created after you change this parameter. The plans that were created before you changed this parameter are not affected.	N
GL_QTR_BASE_ PERIOD	Specifies a short value to indicate a QUARTER base period.	Q
GL_SHORT_NO	Specifies a short value to indicate NO.	N
GL_SHORT_YES	Specifies a short value to indicate YES.	Y
GL_SOURCE_ SYSTEM_CD	Specifies the source system code, which is input to the SAS Financial Management services.	ETL
GL_ TIMESERIES_ DIV_NUM	Specifies the number of time series to be considered at one time for forecasting. You can use this parameter only when you set the GL_OPT_FLAG parameter to **Yes**.	100
GL_WK_BASE_ PERIOD	Specifies a short value to indicate a WEEK base period.	W
GL_INCLUDE_ STAKEHOLDER_ DIM_IND	Specifies whether the stakeholder dimension should be added while the consensus planning process is initiating. Values are 1 and 0. The value 1 indicates to include the stakeholder dimension. The value 0 indicates not to include the stakeholder dimension. The default value is 1.	1
GL_DDF_ ARCHIVE_DIR_ PATH	Specifies the path where the archive tables should be created and data should be archived.	`C: \SASForecastAnalystWo rkbench`

Chapter 7
Running ETL Jobs

Overview of Running ETL Jobs

After you deploy and configure SAS Forecast Analyst Workbench, you must run ETL jobs to populate data. The ETL jobs are categorized as follows:

- SAS Forecast Analyst Workbench jobs

- jobs related to SAS Financial Management

  You must run these jobs when your plan file includes the license for SAS Financial Management

- jobs related to integration with SAS Inventory Optimization

  You must run these jobs when you are integrating SAS Forecast Analyst Workbench and SAS Inventory Optimization

SAS Forecast Analyst Workbench Jobs

Overview of SAS Forecast Analyst Workbench Jobs

You must run the SAS Forecast Analyst Workbench jobs to populate data in the solution data layer of SAS Forecast Analyst Workbench. The SAS Forecast Analyst Workbench jobs are categorized as configuration jobs, initial jobs, and ongoing jobs. You should run the configuration jobs and initial jobs only once. You should run the ongoing jobs periodically or whenever the solution data layer is refreshed in order to load new data to the solution data layer of SAS Forecast Analyst Workbench.

For more information about SAS Forecast Analyst Workbench jobs, see the *SAS Forecast Analyst Workbench: Data Administration Guide*.

You must run all the ETL jobs, including ongoing jobs, in order to log on to the SAS Forecast Analyst Workbench user interface.

Configuration Jobs

You must run the configuration jobs from SAS Data Integration Studio in the following sequence:

1. 01_CREATE_DIM_TABLE_LIST
2. 02_CREATE_FCST_CONFIG_TABLES

Initial Jobs

You must run the initial jobs from SAS Data integration Studio in the following sequence:

1. 01_CREATE_DIM_VAR_DISP_LIST
2. 02_CREATE_SDL_TABLES
3. 03_CREATE_FCST_TABLES
4. 04_CREATE_TIME_PERIOD_DATA
5. 05_CALENDAR_HIERARCHY1
6. 06_CALENDAR_HIERARCHY2
7. 07_TIME_DIM
8. 08_CREATE_UIART_INPUT_TABLES
9. 09_CREATE_UIART_OUTPUT_TABLES
10. 10_LOAD_UIART_INPUT_TABLES

Ongoing Jobs

The ongoing jobs are categorized as dimension jobs and UIART jobs.

First, you must run the following ongoing dimension job from SAS Data Integration Studio: 01_LOAD_DIMENSION_TABLES

After you run the dimension job, you must run the UIART jobs in the following sequence:

1. 01_LOAD_PLAN_INPUT_TABLES
2. 02_LOAD_LEAF_NODE_DATA
3. 03_LOAD_DIM_HIERARCHY
4. 04_LOAD_ATTRIB_LIST
5. 05_LOAD_ATTRIB_VALUES
6. 06_LOAD_NODE_ATTRIBUTES
7. 07_LOAD_EVENTS

SAS Financial Management Jobs

If the plan file includes the license for SAS Financial Management, you must run the jobs related to SAS Financial Management. The SAS Financial Management jobs are categorized as configuration jobs, initial jobs, and ongoing jobs.

First, you must run the following configuration job to create the configuration tables: 01_CREATE_FM_TABLES

After you run the configuration job, you must run the initial jobs in the following sequence:

1. 01_LOAD_FM_STG_CONFIG_TABLES

2. 02_LOAD_FM_SDM_DATA_LOCALE

3. 03_CREATE_FM_SDM_DIMENSION_TYPES

4. 04_CREATE_FM_SDM_DIMENSIONS

5. 05_CREATE_FM_UIART_TABLES

After you run the configuration and initial jobs, you must run the ongoing jobs in the following sequence:

1. 01_LOAD_FM_STG_DIMENSION_MEMBERS

2. 02_LOAD_FM_STG_USER_X_MEMBERS

3. 01_LOAD_FM_SDM_USERS

4. 02_LOAD_FM_SDM_GROUPS

5. 03_LOAD_FM_SDM_USERS_X_GROUPS

6. 04_LOAD_FM_SDM_DIMENSION_MEMBERS

For detailed information about SAS Financial Management jobs, see the *SAS Forecast Analyst Workbench: Data Administration Guide*.

SAS Inventory Optimization Jobs

If you are integrating SAS Forecast Analyst Workbench with SAS Inventory Optimization, you must run these jobs in the following sequence:

1. 01_CREATE_IO_FCST_TABLES

2. 02_LOAD_IO_FCST_TABLES

Note: Before you run these jobs, you must create the plan in SAS Forecast Analyst Workbench on which SAS Inventory Optimization is to going to be run.

For detailed information about SAS Inventory Optimization jobs, see the *SAS Forecast Analyst Workbench: Data Administration Guide*.

Chapter 8

Capabilities in SAS Forecast Analyst Workbench

View and Assign Capabilities

Capabilities in SAS Forecast Analyst Workbench are arranged in the following categories: planning, general, and modeling. Depending on the role of the user in your organization, you can assign capabilities to that user. For example, if a user is a planner in your organization, you can assign planning capabilities. You can also assign capabilities to a group so that all users in that group share the same capabilities.

To view the capabilities:

1. Log on to SAS Management Console as an administrative user (sasadm) or a user who has the capability to view roles.

2. On the **Plug-ins** tab, select **SAS Management Console** ⇨ **Environment Management** ⇨ **User Manager**.

3. Right-click on one of the SAS Forecast Analyst Workbench roles and select **Properties**. The Properties dialog box appears.

4. In the Properties dialog box, click the **Capabilities** tab.

5. On the **Capabilities** tab, expand **Forecast Analyst 5.1**. The planning, modeling, and general capabilities appear.

You can select the capabilities for the user and groups according to your business requirements.

Planning Capabilities

Planning capabilities enable a user to perform the organizational planning activities in SAS Forecast Analyst Workbench. A user can create, edit, delete, and copy a forecast plan. The following table describes the planning capabilities.

Table 8.1 *Planning Capabilities*

Capability	Description	User Interface Impact
Create Forecast Plan	Enables a user to create a forecast plan and to specify the scope of the forecasting activity.	The ✳ button is visible in the All Plans category view of the Forecast Plans workspace.
Edit Forecast Plan	Enables a user to modify the forecast plan.	The ◣ button is visible in the All Plans category view of the Forecast Plans workspace.
Delete Forecast Plan	Enables a user to delete a forecast plan.	The ✕ button is visible in the All Plans category view of the Forecast Plans workspace.
Copy Forecast Plan	Enables a user to copy the forecast plan.	The ▤ button is visible in the All Plans category view of the Forecast Plans workspace.

General Capabilities

General capabilities enable a user to perform tasks within SAS Forecast Analyst Workbench that are related to analyzing the forecast values. The following table describes the general capabilities.

Table 8.2 *General Capabilities*

Capability	Description	User Interface Impact
Scenario Analysis	Enables a user to perform scenario analysis using the forecasted values.	The ▣ button is visible and the **Scenario** tab is enabled in the Explore Demand view.
Consensus	Enables a user to perform consensus planning using the forecasted values.	The ▦ button is visible in the Explore Demand view and the Consensus Planning view.
New Product, Create Forecast	Enables a user to create a forecast project for a new product and to forecast the possible future values for that new product.	The ✳ and ✕ buttons are visible in the New Products workspace.
New Product, Assign to Plan	Enables a user to assign the new product forecast project to a forecast plan.	The ▤ button is visible in the New Products workspace.

Capability	Description	User Interface Impact
View Comments Manager	Enables a user to view and add comments about a forecast plan.	The **Comments Manager** pane is visible in the All Plans category view and the Forecast Studio Projects category view of the Forecast Plans workspace.
Edit Batch Run Details	Enables a user to schedule a plan to run periodically in batch mode.	The fields and options in the **Batch Run Details** pane are enabled in the All Plans category view of the Forecast Plans workspace.

Modeling Capabilities

Modeling capabilities enable a user to perform tasks related to model management and to generate forecast values. The following table describes the modeling capabilities.

Table 8.3 *Modeling Capabilities*

Capability	Description	User Interface Impact
Edit Parameters	Enables a user to edit parameters for the entire plan, for a time series, or for selected forecast-leave–level time series.	The ⬜ button, and the **Edit parameters for plan** and **Edit parameters of the time series** links are visible in the Model Management view.
Diagnose Plan	Enables a user to diagnose a plan so that the forecasted values can be generated.	The ⬜ and ⬜ buttons are visible on the toolbar of the All Plans category view. The **Diagnose** and **Re-Diagnose** buttons are visible in the Model Management view.
Accept Plan	Enables a user to accept the plan when the forecasted values are satisfactory.	The **Accept** button is visible in the Model Management view.
Forecast Studio Integration	Enables a user to analyze a plan in SAS Forecast Studio.	The ⬜ button is visible in the Model Management view and the Forecast Studio Projects category view.
Re-Run Forecast	Enables a user to rerun the forecast for the plan, for a time series, or for selected forecast-leaf-level time series.	The ⬜ button is visible in the Model Management view.
Reconcile	Enables a user to reconcile the forecasted values of a plan.	The **Reconcile** button is visible in the Model Management view.

Chapter 9
Authorizing Users to Access Data

Overview of Authorizing Users

SAS Forecast Analyst Workbench enables you to authorize a user or group of users and to assign permissions to users to access data. Based on your business requirements, you can assign different levels of access to different users or groups of users. For example, you can give user A access to data that is related to products X and Y and you can give user B access to data that is related to products V, W, and X.

You use SAS Management Console to provide users with access to data. You can set authorizations after you run the ETL jobs. You might want to authorize users under the following conditions:

- a new user is added to the environment

- new data (for example, a new product or store location) is added to the dimension and you want to assign permissions

- you want to change the permissions that are already assigned to an existing user

For more information about running ETL jobs, see the *SAS Forecast Analyst Workbench: Data Administration Guide*.
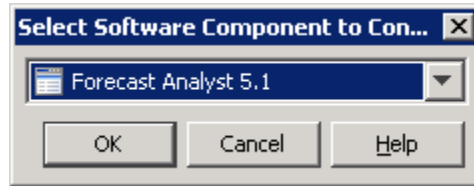
Make a User or Group Solution Authorized

After you have run the ETL jobs, you can make a user or group solution authorized.

To make the user or group solution authorized:

1. Log on to SAS Management Console as an unrestricted administrator (sasadm) or as a user who has the capability to authorize permissions.

2. On the **Plug-ins** tab, select **Application Management** ⇨ **Data Authorization**. The Select Software Component to Connect dialog box appears.

   Display 9.1 *Select Software Component to Connect Dialog Box*

3. In the Select Software Component to Connect dialog box, select **Forecast Analyst 5.1**, and then click **OK**.

4. In the **Data Authorization** node of the **Plug-ins** tab, select a user or group of users that is SAS authorized.

5. Right-click the user or group and select **Add to Solution Authorization**.

The **Solution Authorized** column displays **Yes** for the user. That user or group is authorized to access the solution.

Assign Permissions to a User or Group for Data

After you have run the initial and ongoing jobs, you can assign permissions to a user or group for the data.

To assign permissions to a user or group for data:

1. Log on to SAS Management Console as an unrestricted user (sasadm) or as a user who has the capability to authorize data.

2. On the **Plug-ins** tab, select **Application Management** ⇨ **Data Authorization**. The Select Software Component to Connect dialog box appears.

3. In the Select Software Component to Connect dialog box, select **Forecast Analyst 5.1**, and then click **OK**.

4. In the **Data Authorization** node, select a user or group that is solution authorized.

5. Right-click the user or group and select **Update Permissions**. The Update Permissions dialog box appears.

Display 9.2   *Update Permissions Dialog Box*

6. Enter the appropriate information in the Update Permissions dialog box. The
    following table describes the fields in the Update Permissions dialog box.

Table 9.1   *Fields in the Update Permissions Dialog Box*

Field	Description
Select dimension	Select a dimension from the list (for example, **PRODUCT**).
From level	Select the hierarchy level at which you want to begin to give permission to the user. For example, select **Segment**.
	Note: This list is available only when you select a dimension that contains hierarchical data.
To level	Select the lowest level of the hierarchy for which you want to provide permission to the user (for example, **Product name**).
	The user or group can access all hierarchy levels from the level that you specified in the **From level** field through the level that you selected in the **To level** field
	Note: This list is available only when you select a dimension that contains hierarchical data.
	Note: If the user will be forecasting the new product, you must provide access to the lowest-level data (leaf-level data) for all dimensions to that user.

Field	Description
Copy Permissions	Click this button to copy permissions from another user. When you click this button, the Copy Permissions dialog box appears. Select a user whose permissions you want to copy and click **OK**.
Search	Enter a member of the hierarchy level or the value of the hierarchy level and click **Search**. The Update Permissions dialog box displays the members or values that satisfy the search criteria.
Member	Displays the name of the hierarchy value or the name of the member, based on the **From level** value that you selected.
Read	Select this check box to permit the user or group to access the hierarchy level.

7. Click **OK**.

The **Permissions** column displays **Yes**. The selected user or group is permitted to access the selected data.

Assigning Permissions to a User or Group for a Plan or for a SAS Forecast Studio Project

Users in SAS Forecast Analyst Workbench cannot access plans or SAS Forecast Studio projects that are created by other users. You must provide permissions to the user for the plan or SAS Forecast Studio that is created by another user. For example, you can assign permissions to user B (who is a forecast analyst) for a plan that user A (who is a planner) creates so that user A can perform model-management tasks.

Whenever a plan or a SAS Forecast Studio project is created, a smart object for that plan or a SAS Forecast Studio project is created in SAS Management Console. You should provide permission to the user on the smart object of that plan or SAS Forecast Studio project.

To assign a user permissions to access a plan or SAS Forecast Studio project that another user created:

1. Log on to SAS Management Console as an unrestricted administrator or as a user who has the capability to assign permissions.

2. On the **Folders** tab, select **SAS Folders** ⇨ **Products** ⇨ **SAS Forecast Analyst Workbench** ⇨ **Forecast Analyst 5.1** ⇨ **SMARTOBJECTS**.

   The FORECASTPLAN folder in the SMARTOBJECTS folder contains the smart objects that are created for forecast plans. The FORECASTSTUDIOPROJECT folder in the SMARTOBJECTS folder contains the smart objects that are created for SAS Forecast Studio projects.

3. Perform one of the following steps:

   • If you want to assign permissions for a plan, select the smart object for the plan in the **FORECASTPLAN** folder, right-click the object, and select **Properties**. The Properties dialog box appears.

- If you want to assign permissions for a SAS Forecast Studio project, select the smart object for the SAS Forecast Studio project in the **FORECASTSTUDIOPROJECT** folder, right-click the project, and select **Properties**. The Properties dialog box appears.

4. In the Properties dialog box, click the **Authorization** tab.

5. On the **Authorization** tab, click **Add**. The Add Users and Groups dialog box appears.

6. Select a user or group in the **Available Identities** column, and then move it to the **Selected Identities** column.

7. Click **OK**. The Add Users and Groups dialog box closes.

8. Select the newly added user or group and grant **ReadMetadata**, **WriteMetadata**, and **CheckInMetadata** permissions in the **Effective Permissions** section of the Properties dialog box.

9. Click **OK**.

Chapter 10
Scheduling a Plan To Run in Batch Mode

Overview of Using Batch Mode

You can schedule a plan to run periodically in batch mode. To schedule a plan to run in batch mode, you need to define settings in SAS Management Console. This section provides detailed information about the settings that you need to set in order to schedule a plan to run in batch mode.

Define Scheduling and Job Execution Services

You must define the settings for the scheduling services and job execution services in order to run a plan in batch mode.

To define the scheduling services and job execution services settings:

1. Log on to SAS Management Console as an unrestricted administrator (sasadm) or as a user who has the capability to schedule a plan in batch mode.

2. On the **Plug-ins** tab, select **Application Management** ⇨ **Configuration Manager** ⇨ **SAS Application Infrastructure** ⇨ **Web Infra Platform Services 9.3** ⇨ **SchedulingService**.

3. Right-click **SchedulingService**, and then click **Properties**. The SchedulingService Properties dialog box appears.

4. In the **SchedulingService Properties** dialog box, click the **Advanced** tab.

5. Specify **True** for the **Enable.Distributed-IP.Scheduler** property name.

6. Click **OK**.

7. On the **Plug-ins** tab, select **Application Management** ⇨ **Configuration Manager** ⇨ **SAS Application Infrastructure** ⇨ **Web Infra Platform Services 9.3** ⇨ **JobExecutionService**.

8. Right-click **JobExecutionService**, and then click **Properties**. The JobExecutionService Properties dialog box appears.

9. On the **Settings** tab, select the **Enable Distributed-IP Scheduler job runner** check box.

10. Click **OK**.

The scheduling services and job execution services settings are defined. You must restart the services to make those changes effective.

Assign Permissions to the Solutions Host User for Accessing the SAS Forecast Analyst Workbench Folder

If your deployment includes SAS Financial Management, you also need to define the permissions to the Solutions Host User for accessing the SAS Forecast Analyst Workbench folder in SAS Management Console.

To assign access to the SAS Forecast Analyst Workbench folder in SAS Management Console:

1. Log on to SAS Management Console as an unrestricted administrator (sasadm) or as a user who has the capability to assign permissions.

2. On the **Folders** tab, select **Products** ⇨ **SAS Forecast Analyst Workbench** ⇨ **ForecastAnalystWorkbench 5.1**.

3. Right-click **Forecast Analyst 5.1**, and then click **Properties**. The Forecast Analyst 5.1 Properties dialog box appears.

4. In the Forecast Analyst 5.1 dialog box, click the **Authorization** tab.

5. On the **Authorization** tab, select the Solutions Host User and grant all permissions.

   If the Solutions Host user is not listed, click **Add**, and then select the Solutions Host User.

6. Click **OK**.

The permission to access the SAS Forecast Analyst Workbench folder in SAS Management Console is assigned.

Edit the Parameters for the Batch Stored Process

You need to edit the parameters for the ddcf_batch_retrieve_data_diag stored process in order to schedule a plan in batch mode.

To edit these parameters:

1. Log on to SAS Management Console as an unrestricted administrator (sasadm) or as a user who has the compatibility to edit the parameters for the batch stored process.

2. On the **Folders** tab, select **SAS Folders** ⇨ **Products** ⇨ **SAS Forecast Analyst Workbench** ⇨ **Forecast Analyst 5.1** ⇨ **FAW** ⇨ **STORED_PROCESSES**.

3. Select the **ddcf_batch_retrieve_data_diag** stored process, right-click it, and select **Properties**. The ddcf_batch_retrieve_data_diag Properties dialog box appears.

4. In the ddcf_batch_retrieve_data_diag Properties dialog box, click the **Parameters** tab.

5. Select the **userName** parameter and click **Edit**. The Edit Prompt dialog box appears.

6. In the Edit Prompt dialog box, clear the **Requires a non-blank value** check box, and click **OK**.

7. In the ddcf_batch_retrieve_data_diag Properties dialog box, select the **passwd** parameter, and click **Edit**. The Edit Prompt dialog box appears.

8. In the Edit Prompt dialog box, clear the **Requires a non-blank value** check box.

9. Click **OK** twice to close the Edit Prompt and ddcf_batch_retrieve_data_diag dialog boxes.

Chapter 11
Performing Miscellaneous Tasks

Using Localized Data in SAS Forecast Analyst Workbench

You can use data that is localized in the following languages:

*   Japanese

*   German

*   Korean

*   Simplified Chinese

Note: If you are using SAS Financial Management for consensus planning, you can use data in English only.

In order to use the localized data in SAS Forecast Analyst Workbench, you must edit the autoexec.sas file that is located at **<SASCONFIG>\Lev<n>\AppData \SASForecastAnalystWorkbench**. For more information about editing the autoexec.sas file, see the SAS Note about this topic.

You must also set the value of the GL_MYSQL_DBCONINIT parameter in SAS Management Console. For more information about the GL_MYSQL_DBCONINIT parameter, see "About the Configuration Parameters" on page 34.

Storing the Forecasted Data at a Different Location

By modifying the default value of GL_FS_PROJ_DATA_STORAGE_PATH parameter, you can store the forecasted data at a location that is different from the default location.

To modify the default value of GL_FS_PROJ_DATA_STORAGE_PATH parameter to store the forecasted data at a different location:

1. Open an interactive SAS session.

2. Click in the **Explorer** pane, and then click **Tools** ⇨ **Options** ⇨ **Explorer**.

3. On the **General** tab of the Options window, clear the **Metadata Browser Mode** check box, and then click **OK**.

   Note: You must select this check box after you make changes to the parameter.

4. In the command box in the interactive SAS session, type **Metabrowse**.

5. Enter the credentials for the metadata server that you defined with the sasadm credentials. The Metadata Browser window appears.

6. In the left pane of the Metadata Browser window, browse to **Foundation** ⇨ **Software Component** ⇨ **Forecast Analyst Server 5.1** ⇨ **PropertySets** ⇨ **Application Configuration** ⇨ **SetProperties**. The right pane of the Metadata Browser window displays all associations of SetProperties.

7. In the right pane of the Metadata Browser window, double-click the GL_FS_PROJ_DATA_STORAGE_PATH parameter. The right pane of the Metadata Browser window displays all properties of the parameter.

8. Double-click the **DefaultValue** field. The Modify Value dialog box appears.

9. In the **Modify value for DefaultValue** field, enter the new path and click **OK**.

10. Close the Metadata Browser window.

11. Repeat steps 1 through 3, and then select the **Metadata Browse mode** check box.

Verifying the Default Path of Log Files

SAS Forecast Analyst Workbench generates different log files. You can view the log files to check detailed information about the tasks that you have performed. SAS Forecast Analyst Workbench creates the following log files:

- SAS Forecast Analyst Workbench log file, which is located at `<sasconfig>/Lev<n>/Web/Logs/SASForecastAnalystWorkbench5.1.log`

  Note: If you have deployed SAS Forecast Analyst Workbench on a multi-machine environment, this log file is created on the middle-tier machine.

- Stored Process logs are stored at `<sasconfig>/Lev<n>/SASApp/StoredProcessServer/Logs`

  Note: If you have deployed SAS Forecast Analyst Workbench on a multi-machine environment, these logs are stored on the server-tier machine.

- The logs that are created for SAS Financial Management processes that are run through SAS Forecast Analyst Workbench are stored in the path that you specified on the <GL_DDF_CONFIG_DIR_PATH>/logs parameter.

Warning Message for the JBoss Web Application Server

When the JBoss Web application server tries to access the SAS Web Infrastructure platform, you might receive warning messages in the JBoss Web application-server log. You should ignore this warning. For more information about this warning, go to **http://support.sas.com/kb/44/312.html**.

Updating the SAS SID File

After you have started using SAS Forecast Analyst Workbench, you must update the SAS installation data (SID) file during the appropriate SAS renewal period. For more information about updating the SAS SID file, go to **https://support.sas.com/documentation/installcenter/en/ikwinri/64446/PDF/default/setinit.pdf** and **https://support.sas.com/documentation/installcenter/en/ikunxri/64455/PDF/default/setinit.pdf**.

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