

SAS® Profitability Management 2.3

Installation, Migration, and Configuration Guide



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Chapter 1 – Using These Instructions

This document has six major sections:

- Pre-Migration Guide – Chapter 2
- Pre-Installation Guide – Chapter 3
- Installation Guide – Chapter 4
- Post-Installation Guide – Chapter 5
- Optional Configuration Guide – Chapter 6

Before you start, refer to the *SAS Profitability Management 2.3 Systems Requirements* document for information about third-party software and operating system specifications. It is located on the SAS Technical Support website at

<http://support.sas.com/documentation/onlinedoc/pm/>

Chapter 2, the Pre-Migration Guide, contains steps that are required if you are migrating from SAS Profitability Management 2.x to 2.3. These steps must be completed before you install the new code.

Chapter 3, the Pre-Installation Guide, contains common steps that may be used for any of the tiers in the installation guide.

Chapter 4, the Installation Guide, outlines the steps that must be taken for a successful installation of SAS Profitability Management 2.3.

Chapter 5, the Post-Installation Guide, contains steps to create the Data Model and test the installation.

Chapter 6, the Optional Configuration Guide, contains steps that you can optionally take for additional security and logging. It also contains steps for setting up SAS/SHARE for SAS Profitability Management.

Verify that **Include SAS/SHARE Server Configuration 9.4** is selected on the **Distribute Components** tab of the SAS Planning Application when creating the plan file. This setting enables SAS/SHARE to be properly configured and available for use by SAS Profitability Management.

Technical Support

Visit the SAS Technical Support website, <http://support.sas.com>, for installation updates.

For additional product documentation, visit the SAS Technical Support Documentation website: <http://support.sas.com/documentation/onlinedoc/pm/>.

Note to the reader:

Words in examples that are italicized indicate variables and should be replaced by information that applies to your system.

For example, *SAS-install-path* should be replaced by the path where you installed SAS. If you installed SAS in Program Files on your Windows D drive, replace *SAS-install-path* with

D:\Program Files\SAS

Similarly, *Configuration-Path* should be replaced by the path where your configuration is installed. For example, if you installed the configuration on `/opt` path and used a configuration name of `Config`, replace *Configuration-Path* with `/opt/SAS/Config`.

Chapter 2 – Pre-Migration Guide

If you are migrating from SAS Profitability Management 2.x to 2.3, first refer to the *SAS 9.4 Intelligence Platform: Migration Guide* at

<http://support.sas.com/documentation/cdl/en/bimig/63853/PDF/default/bimig.pdf>.

Migration should only be done on the Middle Tier (web server) and the Data-Tier (Workspace Server and Proc Tranassign). Migration of clients is not required. On multiple-machine deployments, run the migration utility first on the machine that is hosting SAS Metadata Server.

If you are using SAS/SHARE and have port conflicts during migration, contact Technical Support.

Cleaning Up the Existing SAS Profitability Management Data Model

Deleting Detail Report Cubes

Detail cubes are deleted when the user logs out of the SAS Profitability Management Web Application. If a user exits the Web Application without logging out, the detail cubes and information maps are not deleted. So it is a best practice to delete them manually prior to migration.

Open SAS OLAP Cube Studio 9.x and expand **Foundation** and **Cubes**. The Detail cubes are named PM_XXXXXXXXXXXXXXXX, where XXXXXXXX is a SAS Profitability Management user ID and nnnnnnn is a sequence number. Right-click each of the Detail cubes and select **Delete**.

To delete the information maps, Open SAS Management Console 9.x and expand Environment Manager, BI Manager, and ProfitabilityManagement. Select the temp directory and you will see the information maps for the detail cubes. Right-click each of the information maps and select **Delete**. After you have deleted all the information maps, delete the temp directory.

Backing Up the System

Backing up the SAS 9.2 or 9.3 System is explained in the *SAS 9.4 Intelligence Platform Migration Guide*. Also you must back up the PM Model data sets. Because these data sets contain indexes, you must use the SAS Procedure CPORT to back them up and the SAS Procedure CIMPORT to restore them. You should do this in addition to the backup that the SAS Migration Utility performs.

If your existing PM Model is in

C:\SAS\Config\Lev1\Data\SASProfitabilityManagement\pmmodel, the following program will copy the files from “pmmodel” to tranfile.

```
libname pmModel  
  'C:\SAS\Config\Lev1\Data\SASProfitabilityManagement\pmmodel';  
  
filename tranfile 'transport-file';  
  
proc cport library= pmModel file=tranfile memtype=data;  
run;
```

Running SAS Migration Utility

The SAS Migration Utility, can be found in the SAS Software Depot\utilities\SMU directory. You should download your SAS 9.4 software to the SAS Software Depot before running the migration. It will create a migration package that can be used with the install. It should be run on all servers.

Create an output directory to hold the migration plan and backups.

Open the existing SAS Management Console 9.x to determine the type of Distributed Authoring and Versioning (DAV) you have installed. Expand the **Server Manager** and pick the DAV server. Open its properties and use the Options page to determine the vendor.

Copy the `smu.properties.template` file to `smu.properties` and edit it. The following properties should be examined for changes. This is a file that will be read by Java, so all backslashes “\” should be doubled, “\\”.

1. `SMU.config.dir`=should be the name of the SAS configuration directory
2. `SMU.SASROOT`=should be the location of Base SAS
3. `SMU.SASHOME`=should be the initial directory in program files of SAS
4. `SMU.host.metadata`= the machine name of the Metadata Server
5. `SMU.port.metadata`= the port on the Metadata Server, typically **8561**
6. `SMU.user`= the Metadata Server administrative user, typically **sasadm**
7. `SMU.password`=should be the password for the Metadata Server administrative user
8. `SMU.Output.Dir`=should be the directory to put the smu plan and backups in

If Xythos is your DAV vendor, add the following parameters to the SMU properties file:

`SMU.WFS.XythosHome`=should be the installed location of XythosHome

If Apache is your DAV vendor, you must determine the URL and user ID for the DA. Open SAS Management Console and look at the properties of the BIP Tree folder in BI Manager.

Add the following properties:

`SMU.DAV.URL`=should be the URL for the Apache DAV

`SMU.isdavtier`=true

`SMU.DAV.User`=only required if you specified a user ID for DAV in SMC

`SMU.DAV.Password`=only required if you specified a user ID for DAV in SMC

Verify that the DAV Server is running before you start the SAS Migration Utility. Change the working directory to the location of the utility in SAS Software Depot and invoke the utility with the following commands:

Windows: `smu.exe -properties fully-qualified-SAS-Migration-Utility-properties-file-name`

UNIX: `smu.sh -properties fully-qualified-SAS-Migration-Utility-properties-file-name`

If you want to migrate your DAV, include the `-davtier` command-line option in the command above.

Note: The SAS Migration Utility executable and script file name is different based on types of migration and operating system. For example, for migration of SAS 9.3 to SAS 9.4 on 32-bit Windows, it is `smu93_32.exe`; for migration of SAS 9.4 to SAS 9.4 on 64-bit Windows, it is `smu94_x64.exe`.

Note: If the migration fails on Linux while configuring SAS Profitability Management Data Tier, refer to [SAS Note 62263](#).

Chapter 3 – Pre-Installation Guide

SAS Profitability Management requires that the JUnit program be installed on all tiers and the Java 2 Software Developers Kit (JDK) and a web application server be installed on the Web tier. This step must be completed before you install SAS Profitability Management.

SAS Software

During the installation, you will require access to the SAS Software Depot and plan file. Keep these in a location that is accessible to all the machines.

Download your software into the SAS Software Depot using SAS Download Manager, or install the software from DVDs. For instructions on using SAS Download Manager, refer to http://support.sas.com/demosdownloads/sysdep_t1.jsp?packageID=1281&content=%2Fdownloads.

For detailed information about the SAS Software Depot, refer to the QuickStart Guide at <http://support.sas.com/documentation/installcenter/en/ikqsgplanesd/66210/PDF/default/quickstart.pdf>

Then install the product from the SAS Software Depot using the SAS Deployment Wizard. For detailed instructions on using the SAS Deployment Wizard, refer to the *SAS Deployment Wizard and SAS Deployment Manager 9.4: User's Guide*, at <http://support.sas.com/documentation/installcenter/en/ikdeploywizug/66034/PDF/default/user.pdf>

Designating Ports

About Ports and Multicast Addresses

While you are creating operating system user accounts and groups, review the set of ports that the SAS servers and third-party servers in your system will use by default. If any of these ports is unavailable, select an alternate port and record the new port in the following table.

You should also plan for designating Internet Protocol (IP) multicast addresses for all the machines in your SAS deployment. This topic is beyond the scope of this document. For more information see “Setting Up Users, Groups, and Ports” in the *SAS 9.4 Intelligence Platform Installation and Configuration Guide* at <http://go.documentation.sas.com/?docsetId=biig&docsetTarget=p01intellplatform00installgd.htm&docsetVersion=9.4&locale=en>

The following table is not a complete list of the ports used by SAS products. Rather, it is a list of the ports that will be used by SAS Profitability Management. For more information on ports, refer to “Designating Ports and Multicast Addresses” in the *SAS 9.4 Intelligence Platform Installation and Configuration Guide*: <http://go.documentation.sas.com/?docsetId=biig&docsetTarget=p01intellplatform00installgd.htm&docsetVersion=9.4&locale=en>

Server	Default Port	Actual Port	Machine Name
SAS Web Application Server	8080		
SAS OLAP Server Port ¹	5451		
SAS Metadata Server	8561		
SAS Workspace Server ²	8591		
SAS Deployment Test Server	10021		
SAS Foundation Services ³	5091		
SAS Object Spawner	8581		
SAS/SHARE (if used)	8551		

¹ This port is for the workspace server on the *OLAP Server* machine

² This port is for the workspace server on the *Proc Tranassign Server* machine

³ This is usually located on the *Metadata Server* machine

The default port assignment is based on a clean installation of the product on a computer where there are:

- no other instances of that product installed
- no other versions of that product running
- no other products of a similar nature running (for example, web servers)

If any of the above is not true, the default ports might have been reassigned during product installation. Verify the proper port assignment before continuing with the SAS Profitability Management installation.

Warning: *There cannot be any conflicting port assignments on any single computer. SAS port assignments may be duplicated across computers as the connection between components/services on different computers is formed using the computer name and the port number.*

Java 2 JDK for Web Server

The install scripts for the web application require access to the Java 2 Software Developers Kit (JDK). Verify that the Java 2 JDK is installed on the server that hosts the web page, and configure it in the PATH environment variable. See the *SAS Profitability Management 2.3 Systems Requirements* for the minimum level of the JDK for the operating system of your web server. The document is at <http://support.sas.com/documentation/onlinedoc/pm/>

Java 2 JDK can be found at the Oracle download website, or you can follow the link from the SAS Technical Support website:

<http://support.sas.com/resources/thirdpartysupport/v94/jdks.html>

Windows

Install Java Platform Standard Edition 6.0 Development Kit (JDK) and verify that it is in your path.

For example, on a Windows 64-bit Server, follow these steps if you installed at C:\JDK 1.6.0_24:

1. Select **Start**→**Control Panel**→**System**. In the **System** dialog box, select **Advanced Tab** and click **Environment Variables**.
2. Under **System Variables**, highlight **Path** and click **Edit**. Add or move the j2jdk path to the beginning of the variable value, typically C:\JDK 1.6.0_24\bin. If the path contains another j2jdk, remove it. Click **OK** for each of the windows that are opened.

Note: Close and reopen DOS prompts to pick up environment changes.

3. Verify that the changes are correct by executing the command `java -version` in a command prompt. The results should return `java version "1.6.0_24"`.

UNIX

Use the following commands to set the PATH environment variable on UNIX. These statements can be added to the .profile file of the user that is running the installation. Or this information can be added to a common profile that can be accessed by the user's profile.

For example, if you installed JDK 1.6.0_21 in the usr directory, issue the following commands:

```
PATH=$PATH:/usr/jdk1.6.0_21/bin
export PATH
```

Java 2 Runtime Environments for SAS Servers

All the computers that host SAS Software require a Java Runtime Environment (JRE). The version depends on the web application server and the operating system.

Java 2 JRE can be found at the Oracle download website, or you can follow the link from the SAS Technical Support website:

<http://support.sas.com/resources/thirdpartysupport/v94/jres.html>

Java 2 Runtime Environments for Clients

The computer that hosts only the SAS Profitability Management rich client does not require the full Java 2 JDK. It only requires the JRE 1.6.0_24 or later. The rich client can only work with the 32-bit version of JRE, which can be found at the Oracle download website.

Web Application Servers

The SAS Profitability Management web application requires a web application server to be installed on the same server machine. For SAS 9.4, the middle tier only supports the SAS Web Application Server.

See the *SAS Profitability Management 2.3 Systems Requirements* for the minimum level of the SAS Web application Server.

Verify that the default Port of 8080 is available so that the SAS Web Application Server can properly respond to HTTP requests. If the default port is not available, reconfigure the other application, then resolve the conflict. If you want to use another port for SAS Web Application Server, you must enter the desired port number when prompted by the SAS Deployment Wizard.

SAS Web Application Server

SAS Web Application Server can be installed and configured automatically with the SAS Deployment Wizard when you install the middle tier. For more information, refer to <https://support.sas.com/en/documentation/third-party-software-reference/9-4/support-for-web-application-servers.html>.

JUnit for SAS Profitability Management Diagnostic

SAS Profitability Management Diagnostic 2.3 requires access to JUnit 4.8.1 software to run. It can be installed from the JUnit organization website,
<http://sourceforge.net/projects/junit/files/junit>

Select **4.8.1**. You can also get the JUnit 4.8.1 software from SAS at

<https://support.sas.com/en/documentation/third-party-software-reference/9-4/support-for-other-products.html>.

Install the software on the same machine where SAS Profitability Management Diagnostic will be installed. This should include the Client, Web Server, and Transaction Server.

User ID for Installations

SAS recommends that you use a generic operating system user ID to install SAS software. Install the software on all servers using the same user ID. Because of file permission requirements, any subsequent upgrades or service packs should be installed using this user ID.

For Windows, this user must be a member of the Administrators group and have the ability to **Log on as batch job**.

For UNIX systems, you should log in as this generic user to install software. You do not have to log on as root for this purpose. At the beginning of the SAS Configuration phase, the SAS Deployment Wizard prompts the installer to run `setuid.sh` using the root account. However, some third-party products require that you be logged in as root when you install them.

Chapter 4 – Installation Guide

This section guides you through the installation of SAS Profitability Management 2.3.

Complete the steps in the section titled “Installation Set-up” below. After you have successfully created the user accounts, select from one of the following three sections:

1. New Single Server Installation , or
2. New Multiple Server Installation, or
3. Incremental Install over SAS 9.4 Enterprise BI Server.

Select the instructions that are appropriate for your set-up. After you have finished the server configuration, you should do at least one client install. Finally use the steps in “Chapter 5 Post-Installation Guide” to verify the installation.

Before you continue, visit our Technical Support website, <http://support.sas.com>, for any additional information that will guide you. In particular, refer to the *SAS 9.4 Intelligence Platform: Installation and Configuration Guide* at

<http://support.sas.com/documentation/cdl/en/biig/63852/PDF/default/biig.pdf>

Important: *Certain hot fixes can cause problems with the operation of SAS Profitability Management. Contact SAS Technical Support before applying any SAS hot fixes or service packs that are not explicitly mentioned in this document.*

Installation Set-up

The following sections tell you how to create the necessary user accounts and groups on the operating system as well as setting the permissions for them on operating system directories.

Creating User Accounts

Before you install your software, you must have two user operating system accounts available. One account, sassrv, is required by the installation process, and the other user account will be the first client user, sasdmo. On Windows servers, networked user accounts are required if the Metadata Server is installed on a separate machine from the other SAS servers.

If you want to create local accounts for a multi-server installation, the local accounts are created on the machine where your metadata repository is located.

When you set up passwords for your SAS system users, it is *highly recommended* that these passwords be created without the requirement to be reset on first login. SAS also recommends that the passwords for these accounts be set not to expire.

Windows

On a Windows server, follow these steps:

1. **Start→Control Panel→Administrative Tools→Computer Management.**
2. Expand the **System Tools**.
3. Expand **Local Users and Groups** and right-click **Users**. Select **New User** to create a new user.
4. Supply the user name (**sassrv** or **sasdmo**)

5. Supply the descriptions (**SAS Server User** or **SAS Demo User**) and password.
6. Clear the option **User must change password at next login**.
7. Select **User cannot change password**.
8. Select **Password never expires**.
9. Click **Create**.
10. Continue with steps 3 through 8 until you have configured both users.
11. Click **Close**.

UNIX

Use the appropriate system utility to add a user with the following characteristics.

1. Add a user (AIX has the *mkuser* command and Solaris and Linux have the *useradd* command)
2. Set its password (*passwd New-User*)
3. Set the expiration date to 99999 (AIX has the *chuser* a command and Solaris and Linux have the *usermod* command)

If you create an account on an AIX system, verify that the “User can LOGIN?” parameter is set to “true.”

The table below can be printed and used to record the password and location for each user account. The values that you enter in this table will be useful during the installation process.

Passwords for these user IDs cannot contain more than one ‘\$’ character.

Windows: Values for the User ID Prefix column will contain either a domain or server name. For example, if the network domain is MyDomain, and the Metadata Server is installed on the machine named OMRServer, and the account sasdmo is created locally on OMRServer, then the User Id Prefix for sasdmo is OMRServer. Alternatively, if sasdmo is a network ID, then the User ID Prefix would be MyDomain.

UNIX: For local accounts, no prefix is used.

Full name	Default User ID	Default Password	User ID Prefix	User ID	Password
SAS Demo User*	sasdmo	DemoDemo1			
SAS Server	Sassrv	AdminAdmin1			

* If the Metadata Server is on a different machine from any of the other SAS processes, a network user ID is required (not an ID for a local account).

Creating and Updating Groups

You must grant permissions to the users who will access the servers. To simplify ongoing maintenance, we recommend that you first create a group and then grant permissions to the group.

Windows

Create one new group called *SAS Servers* and add the above users to the group. Then create another group called *PM Users* and add *sasdemo* to it. Later you will add the SAS Profitability Management users to it.

Take the following steps:

1. Open **Start→Control Panel→Administrative Tools→Computer Management**.
2. Expand **Systems Tools**.
3. Expand **Local Users and Groups** and right-click **Groups**. Select **New Group** to create a new group called *PM Users*.
4. Each PM user must be added to this group.
5. Close **Computer Management**.

UNIX

If you are installing any SAS software on a UNIX system, create a UNIX group to hold the ID for the SAS Server user (*sassrv*), First Time Users (*sasdemo*), and SAS installer. SAS recommends that you name this group *sas*. You must also create a second group called *pmusers* and add *sasdemo* to it.

Take the following steps:

1. Create a group using *groupadd*.
2. Set the primary group of *sassrv* and SAS installer users to *sas* group using the command *usermod*.
3. Create another group called *pmusers* and add *sasdemo* to it.
4. Set the primary group of *sasdemo* user to the *pmusers* group

Later in “[Chapter 6 – Optional Configuration Guide](#),” you will add the SAS Profitability Management users to the group.

Granting Permissions on Windows

When granting permissions, it is necessary to update the local security settings on the Windows server machine. Take the following steps:

1. Bring up the Local Security Policy application: **Start→Control Panel→Administrative Tools→Local Security Policy**.
2. Under **Local Policies**, select **User Rights Assignment**.
3. Right-click **Log on as a batch job** and select **Properties**.
4. Click **Add User or Group...** and grant permission/policy to the group *PM Users*.
5. If you are installing this software on Windows 2003, grant the **Act as part of the operating system** permission/policy to the SAS Server user (*sassrv*) user ID. You might be prompted to log off or restart after granting this permission.

Installing on UNIX

The SAS Deployment Wizard that is used to install SAS Profitability Management is an X-window application. If you are installing from a personal computer, you must set up the display to your personal computer. Here is an example:

```
DISPLAY=machine-absolute-address:0.0
export DISPLAY
```

Verify software depot has execution permissions throughout. If not, use the following command:

```
chmod -R 0755 /depot-location/SASSoftwareDepot
```

where *depotLocation* is the directory where you installed the SAS Software Depot.

Multi-Server Installs

As stated above, if your Metadata Server and other SAS processes reside on different Windows Server machines, a network ID is required for several of the accounts. The *PM Users* and *SAS Servers* groups should be created on a server machine that has a SAS process running on it, namely the Metadata Server and the SAS Profitability Management server.

Single Server Installation

This section provides instructions to install SAS Profitability Management on a single physical server along with SAS 9.4 Enterprise Intelligence Platform. For information about installing on two or more machines, see the “Multiple Server Installation” section. For information about installing on top of an existing SAS 9.4 Enterprise Intelligence Platform see the “Incremental Server Install” section.

Getting Started

1. Stop the SAS Web Application Server.
2. Download your software into a SAS Software Depot that is accessible to all machine targets for the installation.
3. Place your deployment plan files in a known location, such as the *SAS Software Depot* at:

Windows: *SAS Software Depot\Plan\plan.xml*

UNIX: *SAS Software Depot/Plan/plan.xml*

Third-Party Installation

Java JDK

Check the correct version for your operating system in the *SAS Profitability Management 2.3 Systems Requirements*. The document is at <http://support.sas.com/documentation/onlinedoc/pm/>

1. Verify that the Java 2 Software Development Kit has been installed.
2. For Windows, ensure that the `bin` directory is in the Path systems environment variable.
3. For UNIX, ensure that the following statements are added to the `.profile` file of the user that is running the installation. For example if you installed JDK 1.6.0_24 in the `usr` directory, issue the following commands:

```
PATH=$PATH:/usr/jdk1.6.0_24/bin
export PATH
```

Note: For Windows, close and reopen DOS prompts to pick up environment changes.

JUnit

Check the correct version for your operating system in the *SAS Profitability Management 2.3 Systems Requirements*. The document is at <http://support.sas.com/documentation/onlinedoc/pm/>

Ensure that the JUnit has been installed on the server machine.

Web Server Applications

Check the correct version for your operating system in the *SAS Profitability Management 2.3 Systems Requirements* at <http://support.sas.com/documentation/onlinedoc/pm/>.

Ensure that the SAS Web Application Server has been installed.

Install SAS Server Software

This will install all the servers, including the SAS Metadata Server, the SAS Profitability Management Middle Tier, and the SAS Application Server on a single physical server.

Note: *If you have additional software beyond what is required by SAS Profitability Management then there will be additional prompts that are not described in these installation instructions.*

1. Start the SAS Deployment Wizard.
 - Windows:** Invoke the `setup.exe` from the SAS Software depot folder
 - UNIX:** Invoke the setup program from the SAS Software Depot and append an '&' to the command so you have a command line to run any necessary changes.
2. Select **English** or some other language to view the SAS Deployment Wizard.
3. Select the **Install SAS Software** option. Click **Next**.
4. If you have more than one software order, select the appropriate order number and click **Next**.
5. You will be prompted to specify a directory to install the SAS software. Click **Next**.
6. Select a **Planned Deployment** and verify that the **Install SAS Software** and **Configure SAS Software** options are both selected. Click **Next**.
7. Choose the **Specify the full path to a customized deployment plan...** option. Enter the location of your plan file, such as
 - Windows:** `SAS Software Depot\plan_files\plan.xml`
 - UNIX:** `SAS Software Depot/plan_files/plan .xml`
8. Select the Server and Middle Tier machine type and verify that the correct files are being installed. You should have **SAS Foundation**, **SAS Web Report Studio**, and **SAS Profitability Management Mid-Tier**, **SAS Profitability Management Utility** and **SAS Profitability Management Data Tier**. Click **Next**.
9. If this machine is a Windows 64-bit machine, it may prompt you to select whether you want 32-bit or 64-bit SAS programs. Select 64-bit if you are installing on a Windows 64-bit machine and click **Next**.
10. The SAS Installation Data file (SID file) is contained within the Software Depot. Select the SID file that is associated with the order you are installing.
11. Verify that **Base SAS software**, **Enterprise BI Server**, and **SAS Profitability Management Server** are licensed. Click **Next**.

12. Select the **languages** that you would like to install and click **Next**.
13. Choose the region and click **Next**
14. Specify SAS. Click **Next**.
15. Select the SAS Add-In for Microsoft Office. Click **Next**.
16. Review the **Checking System** results and click **Next**.
17. Review the **Required Software** and click **Next**.
18. Specify the locations for the required software and click **Next** on each required software location dialog box.
19. SAS Profitability Management 2.3 does not use any custom configuration, but other SAS solutions such as SAS Activity-Based Management do. Select either **Typical or Custom** on the Select Configuration Prompting Level and click **Next**.
20. If you are not migrating from SAS Profitability Management 2.x, click **Next** on the Specify Configuration Information dialog box. If you are migrating, enter the same directory you did for 2.x.
21. Review the local Machine Name and click **Next**.
22. If you are not migrating from 2.x, leave the **Perform migration** check box cleared on the Migration Information dialog box. Click **Next**.

If you are migrating, verify you have run the SAS Migration Utility (SMU). Check the **Perform migration** check box and specify the location of the directory that contains the SMU file. Then click **Next**.
23. The next dialog boxes let you configure the SAS application. The number of prompts depends on what you are installing. Below is a table with the appropriate actions. You must click **Next** to move on to the next dialog box.

Dialog Box	Action to Perform
Windows Options (Windows only)	Select Create Windows Shortcuts
Windows Shortcuts (Windows only)	Select For All Users
Integrated Windows Authentication (Windows only)	Check this box if you want to use Integrated Windows Authentication. All machines must be Windows machines, and the data model should be in SAS Data Sets
Token-based authentication	Select this check box if you want to use Token-based authentication
SAS Metadata Server	Review the Metadata Server and port
Deployment Accounts: Type of Accounts	Select Use SAS internal accounts when appropriate
External Account Installer	Supply your operating system password
SAS Internal Account: Unrestricted Administrator	Supply the password that you want to use for the sasadm@saspw unrestricted user

Dialog Box	Action to Perform
SAS Internal Account: Trusted User	Enter the password that you want to use for the sastrust@saspw user
Anonymous Web Access	Clear the Enable Anonymous Web Access check box.
External Account: SAS Spawner Server Account	On Windows, enter the domain\user ID and operation system password for user sassrv. On UNIX, enter the user ID and password.
Deployment Accounts: First User	Check Set up a first User Identity – Required to verify the SAS Profitability Management Installation
External Account: First User	On Windows, supply the operating system domain\user ID for sassdemo. On UNIX, specify only the user ID.
Server Encryption	Specify the server encryption level
E-Mail Server	Specify the email server host name
E-mail Addresses	Specify the email addresses
SAS Object Spawner	Click Next
SAS Object Spawner: Port Bank	Click Next
SAS Application Server: Server Context	Select SASApp
SAS Workspace Server	Click Next
Metadata Utility Workspace Server	Click Next
SAS Pooled Workspace Server	Click Next
SAS Stored Process Server	Click Next
Stored Process Server: Multi-bridge Connection	Click Next
SAS OLAP Server	Click Next
SAS/CONNECT Spawner	Click Next
SAS/SAHRE Server (if required)	Click Next
SAS Framework Data Server	Click Next
SAS Framework Data Server: Transactional Database Files	Click Next
SAS Data Step Batch Server	Click Next
Metadata Utility SAS DATA Step Batch Server	Click Next
Operating System Services	Click Next
SAS Deployment Tester Server	Select the JUnit jar file that was installed as a prerequisite.
SAS Remote Services Application	Click Next

Dialog Box	Action to Perform
Event Broker Ports	Click Next
Web Application Server: Automatic Configuration	Check Automatically Configure your Web Application Server .
Web Application Server: Scripting Configuration	Clear the Cache Credentials check box.
Web Application Server: Managed Server	Click Next .
Web Application Server: Managed Server Ports	Click Next .
Web Server prompts	Click Next through all dialog boxes.
Web Application Server: Automatic Deployment	Check Automatically Deploy Web Applications .
SAS Web Application Themes	Click Next .
IP Version	Revise if required and click Next .
IP Multicast	Revise if required and Click Next .
SAS Distributed In-Process Scheduling Server	Click Next .
SAS Web Report Studio: Clustering Support	Clear the check box if you are not using clustering for SAS Web Report Studio .
SAS Web Report Studio: Scheduling	Clear the box if you are not using scheduling for SAS Web Report Studio .
SAS Content Server: Repository Directory	Click Next .
SAS Web Infrastructure Platform: Database Type	Click Next .
SAS Information Delivery Portal: Samples	Click Next .
SAS Web Infrastructure Database JDBC Properties	Click Next .
SAS Environment Manager related screens	Supply passwords and click Next .
SAS Flex Application Themes	Click Next .
SAS Visual Analytics related screens	Supply passwords and click Next .
SAS Deployment Backup and Recovery Tool	Click Next .
SAS Profitability Management Utility: Required Software	Specify the JUNIT jar path.

24. Click **Start** to perform the deployment.

25. When the deployment has completed, click **Next**.

26. Review the manual configuration steps by clicking on the **URL** provided.

27. Perform all of the **Validation** steps.
28. You might see the following exception when you validate the SAS Profitability Management web application because no PM Model data sets exist.

```
Unexpected error: An exception occurred while reading in table:
Model
```
29. After the **Validation** steps are done, close the page.
30. Click **Finish** to close the SAS Deployment Wizard.
31. Restart the machine.

Multiple Server Installation

For multiple machines installation, you must install the server machine with the Metadata Server first, then the application servers such as Workspace or OLAP server, and then the mid-tier (Web Server).

The most complex multiple-server installation that SAS Profitability Management supports includes the following server machines.

- Metadata Server
- Workspace, OLAP, and Transaction Assign Server
- Web Server
- Optional Database Server

The plan file should contain information for installing to your requested server configuration. Here is an example.

Server	Required SAS Software
Metadata Server	Base SAS 9.4 and SAS Metadata Server 9.4
Workspace, OLAP, and Transaction Assign Server	Base SAS 9.4 and SAS OLAP Server 9.4 and SAS Workspace Server 9.4 SAS/ACCESS if you access any RDMS
Web Server or Middle Tier	SAS Web Infrastructure Platform 9.4 SAS Web Report Studio 4.31

You can follow the steps for the single-server installation for each server machine but will not have as many prompts with each server of a multiple server installation as you did for a single server machine. After you have created the Metadata Server, if you are asked to create a **new SAS Application Server Context**, clear the box. The **SASApp** server is created during the **Metadata Server** installation.

Incremental Server Install

If you have already installed SAS 9.4 Enterprise Intelligence Platform on your servers, you can perform an incremental install of SAS Profitability Management 2.3 on your existing application server and web server machines. Before you install, stop all the SAS servers and all the web server applications. Verify that you have the required SAS Software on your machines. See the Table in the “Multiple Server Installation” section above.

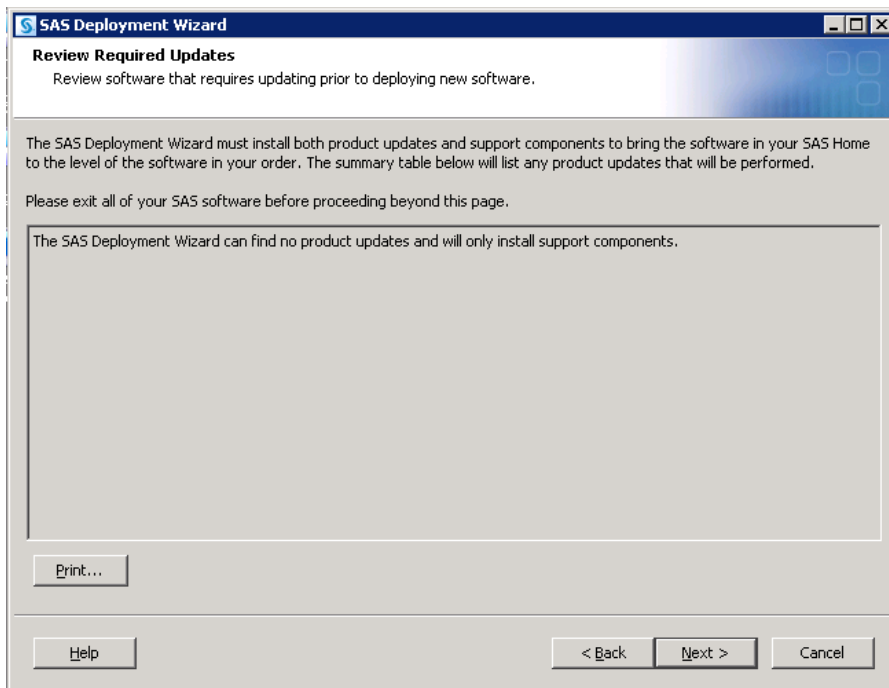
You should do the incremental install for the application server machine such as Workspace or OLAP Server, then the middle-tier machine, and finally the client machine. The plan should include the software you already have installed as well as the SAS Profitability Management software.

The following table shows the components of SAS Profitability Management. If you are installing on only one machine, do not install the utility more than once.

Machine	SAS Profitability Management Components
Application Server	SAS Profitability Management Data-Tier SAS Profitability Management Utility SAS Foundation (PROC Tranassign)
Mid-Tier	SAS Profitability Management Utility SAS Profitability Management Mid-Tier SAS Profitability Management Client Help and Documentation
Client	SAS Profitability Management Client SAS Profitability Management Utility

Review Updates

The SAS Deployment Wizard will review the current state of the machine. If you have not installed all the necessary products or there are updates for the installed product, the wizard will ask you to install them. Here is an example of the dialog box:



Follow the dialog boxes to install the necessary updates. Once the updates have completed, restart the SAS Deployment Wizard in order to install the additional software.

Install the SAS Application Server

On the SAS application server machine, install the SAS Profitability Management Data Tier and the SAS Profitability Management Utility. Verify that the JUnit product is installed on this machine.

1. Start the **SAS Metadata Server** and **Object Spawner** if they are on a different machine.
2. Stop all SAS servers on this machine.
3. Start the SAS Deployment Wizard.
 - Windows:** Invoke the setup.exe from the SAS Software Depot.
 - UNIX:** Invoke the setup program from the SAS Software Depot, and append an '&' to the command so that you have a command line to run any necessary changes.
4. Select **English** or some other language to view the SAS Deployment Wizard.
5. Select the **Install SAS Software** option. Click **Next**.
6. If you have more than one software order, select the appropriate order number and click **Next**.
7. Select a **Planned Deployment** and verify that **Install SAS Software** and **Configure SAS Software** options are both checked. Click **Next**.
8. Choose the **Specify the full path to a customized deployment plan...** option. Enter the location of your plan file, such as:
 - Windows:** `SAS-Software-Depot\plan_files\plan.xml`
 - UNIX:** `SAS-Software-Depot/plan_files/plan`

9. Select **SAS Application Server** as the type of machine you want to install. Verify that **SAS Profitability Management Server** is included. Click **Next**.
10. The SAS Installation Data file (SID file) is contained within the Software Depot. Select the SID file that is associated with the order you are installing. Verify that **Base SAS software** and **SAS Profitability Management Server** are licensed. Click **Next**.
11. Select the **languages** that you would like to install and click **Next**.
12. Specify the location of the Java Runtime (it must be a 32-bit version) and click **Next**.
13. SAS Profitability Management 2.3 does not use any custom configuration, but other SAS solutions such as SAS Activity-Based Management do. Select either **Typical or Custom** on the Select Configuration Prompting Level and click **Next**.
14. Browse to the location of the existing configuration directory, and click **Next**.
15. If you see a message that the configuration directory already exists, click **Yes**. Then select the products to configure. You must include **SAS Profitability Management Data-Tier** and **SAS Profitability Management Utility**. Click **Next**.
16. Verify that **SAS Profitability Management Data Tier**, **SAS Profitability Management Utility** and **SAS Foundation** will be installed. Click **Next**.
17. Review the local Machine Name and click **Next**.
18. If you are not migrating from SAS Profitability Management 2.x, leave the **Perform migration box** cleared. If you are migrating, check **Perform migration**. Click **Next**.
19. The next dialog boxes let you configure the SAS Application. The number of prompts depends on what you are installing. Below is a table with the appropriate actions. Click **Next** to move on to the next dialog box.

Refer to the notes in the **Install SAS Server Software** section in **Single Server Installation**.

20. Select **View Install Alert Notes** and close the page.
21. Click **Start** to perform the installation and configuration.
22. When deployment has completed, click **Next**.
23. Review the validation steps by clicking on the **URL** provided.
24. After the validation steps, close the page.
25. Click **Finish** to close the SAS Deployment Wizard.
26. Restart the machine.

Install the Middle Tier

On the middle-tier server, install the SAS Profitability Management Middle Tier (the Web Tier) and the SAS Profitability Management Utility. Verify that the JDK, JUnit, and your selected web application server are installed on this machine.

1. Verify that the SAS Metadata server and Object Spawner are started.
2. Start the SAS Deployment Wizard.
 - Windows:** Invoke setup.exe from the SAS Software Depot folder.

- UNIX:** Invoke the setup program from the SAS Software Depot, and append an '&' to the command so that you have a command line to run any necessary changes.
3. Select **English** or some other language to view the SAS Deployment Wizard.
 4. Select the **Install SAS Software** option. Click **Next**.
 5. If you have more than one software order, select the appropriate order number and click **Next**.
 6. You are prompted to specify a directory to install the SAS software and click **Next**.
 7. Select a **Planned Deployment** and verify that the **Install SAS Software** and **Configure SAS Software** options are both checked. Click **Next**.
 8. Choose the **Specify the full path to a customized deployment plan...** option. Enter the location of your plan file, such as

Windows:	<code>SAS-Software-Depot\plan_files\plan.xml</code>
UNIX:	<code>SAS-Software-Depot/plan_files/plan</code>
 9. Select **Middle Tier** machine. Verify that **SAS Profitability Management Mid-Tier**, **SAS Mid-Tier Help and Documentation** and **SAS Profitability Management Utility** are included. Click **Next**.
 10. The SAS Installation Data file is contained within the Software Depot. Select the SID that correlates to the order you are installing. Verify that Base SAS software and SAS Profitability Management Server are licensed. Click **Next**.
 11. Click **Next** if you do not want a SAS OnlineDoc archive.
 12. Review the **Required Software**. Verify that there is a **web server** and possibly a **Java Development Kit**, and click **Next**.
 13. Specify the locations for the required software, and click **Next** on each required software location dialog box.
 14. Unlike other SAS solutions, such as SAS Activity-Based Management, use custom configuration, but SAS Profitability Management 2.3 does not. Select either **Typical** or **Custom** on the Select Configuration Prompting Level dialog box, and click **Next**.
 15. Browse to the location of the existing configuration directory, and click **Next**.
 16. If you see a message that the configuration directory already exists, click **Yes**. Then select the products to configure. You must include **SAS Profitability Management Client Help** and **SAS Profitability Management Utility**. Click **Next**.
 17. Review the local Machine Name and port and click **Next**.
 18. If you are not migrating from SAS Profitability Management 2.x, leave the **Perform migration** cleared, and click **Next**.
 19. Supply the Metadata Server host name and port. Click **Next**.
 20. The next dialog boxes let you configure the SAS Application. The number of prompts depends on what you are installing. Below is a table with the appropriate actions. You must click **Next** to move onto the next dialog box.

Refer to the notes in the **Install SAS Server Software** section in the **Single Server Installation** dialog box.

21. **View Install Alert Notes** and close the dialog box.
22. Click **Start** to perform the installation and configuration.
23. When deployment has completed, click **Next**.
24. Review the validation steps by clicking on the **URL** provided.
25. Start the SAS Remote Services and your web application server before you validate the web location.
26. After the validation steps, close the page.
27. Click **Finish** to close the SAS Deployment Wizard.
28. Restart the machine.

Windows Client Installation

This section provides instructions to install SAS Profitability Management on a client machine. Install SAS Management Console on one Windows machine. SAS Profitability Management runs only in 32-bit compatibility mode on Window XP or Windows Vista or Windows 7 machines.

Getting Started

Get access to your SAS Software Depot. Place your plan files in a known location, such as `SAS-Software-Depot\plan_files`.

Third Party Installation

Java Runtime

Check the correct version for your operating system in the *SAS Profitability Management 2.3 Systems Requirements*. The document is available at <http://support.sas.com/documentation/onlinedoc/pm/>

1. Ensure that the 32-bit version of the Java Runtime Environment has been installed.
2. Ensure that the `bin` directory is in the PATH System Environment Variable. See the Pre-Installation Guide for more information.

JUnit

Check the correct version for your operating system in the *SAS Profitability Management 2.3 Systems Requirements*. The document is at

<http://support.sas.com/documentation/onlinedoc/pm/>

Ensure that the JUnit has been installed on the client.

Install SAS Client Software

You can select a language other than English in which to view the SAS Deployment Wizard, but the following instructions are available only in English.

***Note:** If you have additional software from what is required by SAS Profitability Management, you will see additional prompts that are not described.*

1. Start the SAS Deployment Wizard by invoking `setup.exe` from the SAS Software Depot folder.
2. Select **English** or some other language for the SAS Deployment Wizard. Click **Next**.
3. Select the **Install SAS Software** option. Click **Next**.
4. If you have more than one software order from SAS, select the appropriate order number. Click **Next**.
5. You are prompted to specify a directory to install the SAS software and click **Next**.
6. Select a Planned Deployment and verify that Install SAS Software and Configure SAS Software options are both checked. Click **Next**.

Select the option to **Specify the full path to a customized deployment plan....** Enter the location of your plan file, such as `SAS-Software-Depot\plan_files\plan.xml`
7. Select Client machine and verify that the correct files are being installed. Verify that SAS Profitability Management Client and SAS Profitability Management Utility are selected. Click **Next**.
8. The SAS Installation Data file is contained within the Software Depot. Verify that **Base SAS software** and **SAS Profitability Management Server** are licensed. Click **Next**.
9. Select the languages to install and click **Next**.
10. Specify the location of Java Runtime (it must be a 32-bit version) and click **Next**.
11. Select which Microsoft Office Application you want and click **Next**.
12. Browse to the location of the existing configuration directory and click **Next**.
13. If you see a message that the configuration directory already exists, click **Yes**. And then select the products to configure. You must include **SAS Profitability Management Client** and **SAS Profitability Management Utility**. Click **Next**.
14. Supply the local host name. Click **Next**.
15. Leave the **Perform migration** cleared, and click **Next**.
16. Check this box if you want to **Use Integrated Windows Authentication**. All machines must be running Windows, and the data model should be in SAS Datasets
17. Supply the host name and port of the Metadata Server. Click **Next**.
18. Browse to the location of the `junit.jar` and click **Next**.
19. **View Install Alert Notes** and close the page.
20. Click **Start** to perform the installation and configuration.
21. When deployment has completed, click **Next**.
22. Review the validation instructions by clicking on the **URL**.
23. After the validation steps, close the web page.
24. Click **Finish** to close the SAS Deployment Wizard.
25. Restart your machine.

Chapter 5 – Post-Installation Guide

After installation and configuration, follow these post-installation steps to verify the folder permissions, add PM users, and test the installation. Two types of tests are available for SAS Profitability Management. One is the SAS Profitability Management Diagnostic that tests that everything is installed correctly. The other is running the tutorial that will also verify that all the input and output data is correctly registered.

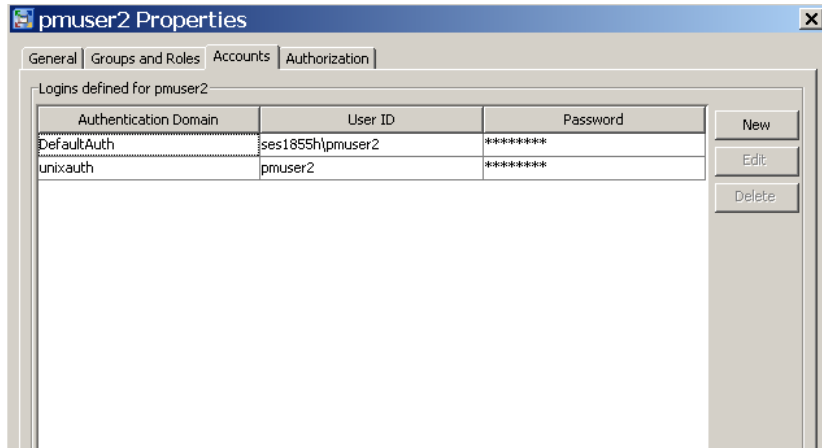
Verify that you have restarted all the SAS server machines and the Web Server machine before you start this section.

You must log on to SAS Management Console using the *SAS-Administrator-User* ID. For new installations of SAS Enterprise BI Server, the *SAS-Administrator-User* ID is *sasadm@sasrw*, an internal user. However, for customers who are migrating their SAS Enterprise BI Server, the *SAS-Administrator-User* ID is *sasadm*, an external user. Substitute the appropriate user ID for *SAS-Administrator-User*.

Updating SASUsers Group Permissions

Setting Up Metadata Users for Mixed-Architecture Environments

If the servers that you use for Profitability Management are of mixed architectures, that is, Windows and UNIX, verify that SAS Profitability Management users have logins for both machines. The Authentication Domains are defined when you create the servers in metadata.



Validating SAS Workspace Server and OLAP Server

If you installed SAS Profitability Management using an incremental install or installed the client on the same machine as the server, verify that the workspace and OLAP servers are still functioning.

1. Open the SAS Management Console with user ID *SAS-Administrator-User*.
2. Click **Plug-ins** at the top.
3. Select the **Foundation** repository.
4. Expand the **Environment Management**, **Server Manager** and **SASApp** branches.
5. Right-click on the **SASApp-Logical OLAP Server** and select **Validate**.

- a. If the validation is successful, click **OK**.
 - b. If the validation is not successful, open the file **sasv9_meta.cfg** in the SAS Configuration directories on your Metadata Server. Verify that it has the SAS trust user ID and encrypted password.


```
-metauser "sastrust@saspw"
-metapass "encrypted-password"
```
 - c. If the file is not correct, check the file in the backup directory for the correct information.
6. Right-click on the **SASApp-Logical Workspace Server** and select **Validate**.
- a. If the validation is successful, then click **OK**. If you are prompted for a password, use an external account, such as First User (sasdemo).
 - b. If the validation is not successful, open the file **level_env.bat** in the SAS Configuration directories on your Metadata Server. Verify that it contains the setting for SASROOT and SAS_COMMAND:

Windows:

```
SET SASROOT=C:\Program Files\SASHome\SASFoundation\9.4
SET SAS_COMMAND=%SASROOT%\sas.exe
```

UNIX:

```
SET SASROOT=/SASHome/SASFoundation/9.4
SET SAS_COMMAND=%SASROOT%/sas.exe
```
 - c. If the file is not correct, check the file in the backup directory on the Metadata Server for the correct information. On Windows, it is *Configuration-Path\Lev1\Backup*. On UNIX, it is *Configuration-Path/Lev1/*.

Defining Permissions for PM Folders and Files

SAS Profitability Management users require read and write access to the following operating system directories.

- Input data sets or databases
- Profitability Management directory on the Workspace Server
- Output data sets or databases

The Profitability Management directory on the Workspace Server is located in one of the following paths, depending on the operating system of the Workspace Server and whether you are migrating SAS Profitability Management 2.x to 2.3

New Installations:

Windows: *Configuration-Path\Lev1\AppData\SASProfitabilityMgmt*

UNIX: *Configuration-Path/Lev1/AppData/SASProfitabilityMgmt*

Migrations:

Windows: *Configuration-Path\Lev1\Data\SASProfitabilityManagement*

UNIX: *Configuration-Path/Lev1/Data/SASProfitabilityManagement*

The input data set you build from your data. For more information about creating input data sets, see the *SAS Profitability Management Tutorial*. It is located on the SAS Technical Support website at <http://support.sas.com/documentation/onlinedoc/pm/>

SAS Profitability Management configuration creates the SAS Profitability Management 2.3 directory. You must set its permission for your operating system group named PM Users.

The output data sets are created when you calculate a model in SAS Profitability Management.

On Windows, set PM Users group permissions to Modify, Read & Execute, List Folder Contents, Read, and Write.

On UNIX, you should set your Profitability Management directory so that Owner and Group (*pmusers*) have Full Control and World has Read. This is 774.

The input and output datasets on UNIX should be set up so that Owner and Group (*pmusers*) have Full Control and World has Read. This is 774.

Profitability Management creates new directories and files for each model and for each report. On UNIX systems, you may need to add the appropriate **umask** command in the `WorkspaceServer.sh` found in your SAS Configuration directory `Configuration-Path/Levl/SASMain/WorkspaceServer`.

Add an appropriate **umask** command at the start of these files after the heading. For example, add the following:

```
umask 007
```

See the man page on your UNIX machine for the `umask` command for more options. Including `umask` in the `WorkspaceServer.sh` will affect all products/solutions that use the script to launch their SAS Workspace Server.

Use 32-bit JRE for SAS Profitability Management Client

By default SAS installation configures the client to use the 64-bit version of the JRE. However, Profitability Management client can only work with a 32-bit version of JRE. To resolve this issue, take the following steps:

1. Download a 32-bit version of the JRE to a local folder on the client machine (for example, `C:\Java\jre1.6.0_24`).
2. Edit the `profitabilitymanagement.ini` file located at `C:\Program Files\SASHome\SASProfitabilityManagementClient\2.3`.
3. Modify the path under the line “-vm” to be the full path of JRE bin folder (for example, `C:\Java\jre1.6.0_24\bin`).
4. Save and close the `.ini` file

Creating the SAS Profitability Management Database

If you are migrating from Profitability Management 2.1 or 2.2, **skip** this section and the section titled Upgrading SAS Profitability Management Database below. There have been no database changes since version 2.1 of SAS Profitability Management.

After the SAS Profitability Management client has been installed, the first user to log in will be prompted to create the PM Model database. You should use the First User account, typically SAS Demo User (*sasdemo*), that you created during installation. Verify that *sasdemo* is in the operating

system PM Users group and that the group has all permissions for the Profitability Management directory.

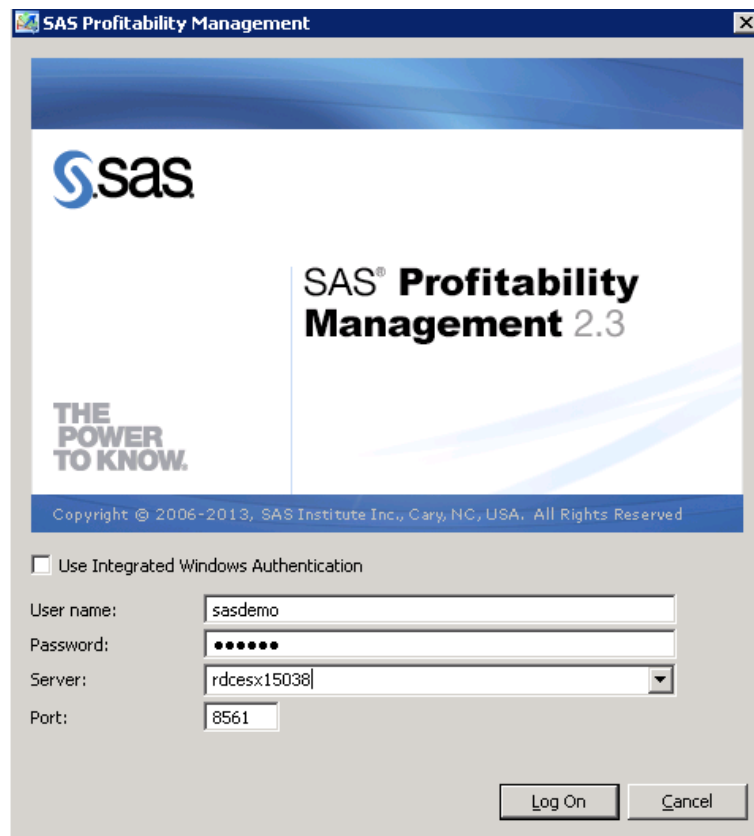
Windows: *Configuration-Path\Lev1\AppData\SASProfitabilityMgmt*

UNIX: *Configuration-Path/Lev1/AppData/SASProfitabilityMgmt*

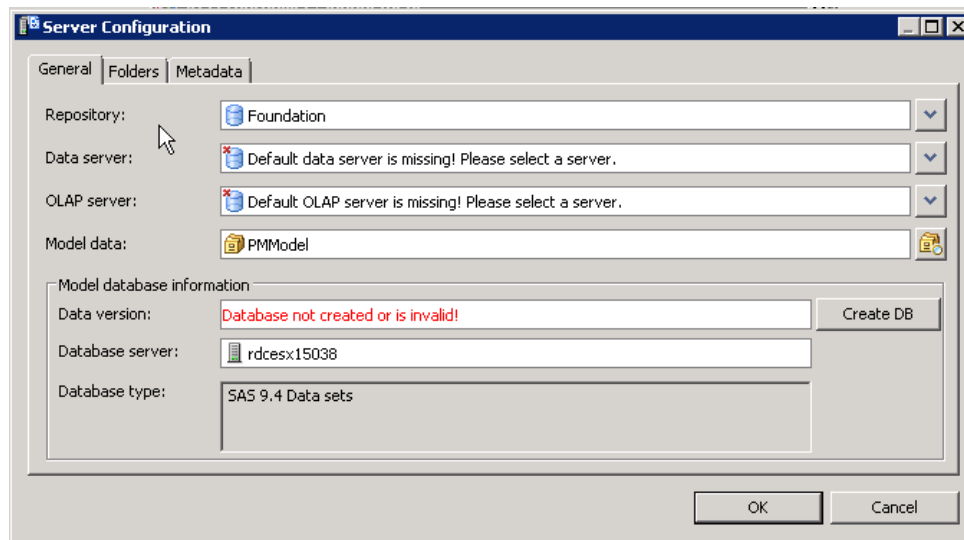
Do not manually add anything to the PM Model database. Input data, output data, and the PM Model database should be in separate directories on the operating system and each of the data libraries is in a separate metadata folder.

To create a SAS Profitability Management Database, take the following steps:

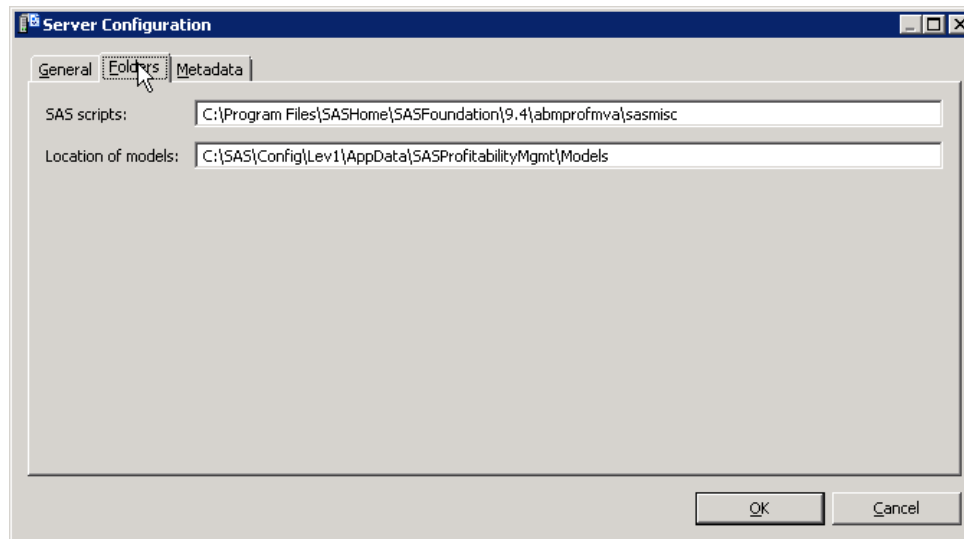
1. Launch the SAS Profitability Management client. You are prompted to log into the SAS Metadata Server.



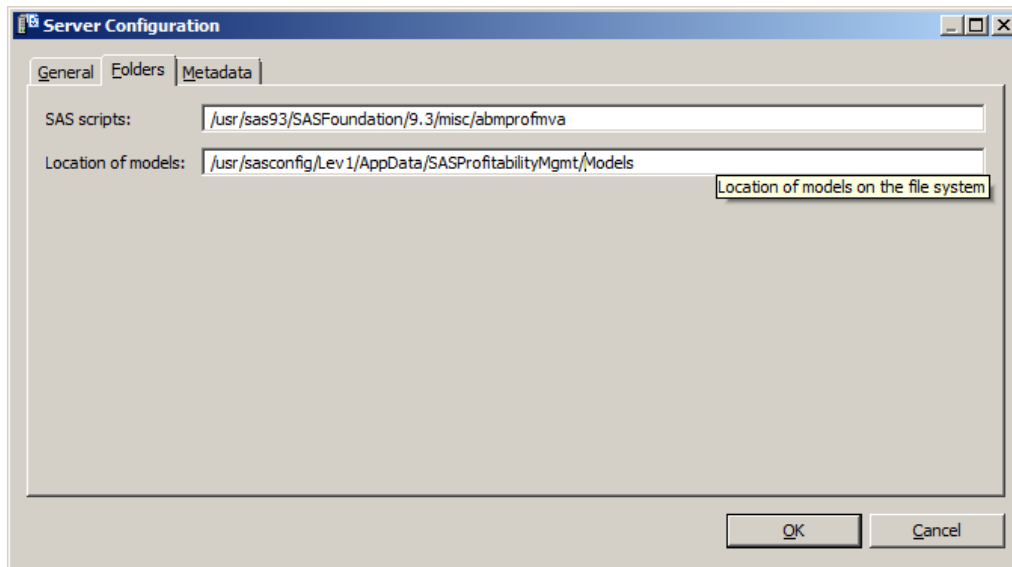
2. Enter a user name and password combination that is valid for your metadata installation. If the user is a network Windows user, prefix the user name with its domain and a "\". If your servers are of mixed architecture, you must fully qualify the name of the Metadata Server.
3. The Server configuration dialog box opens.



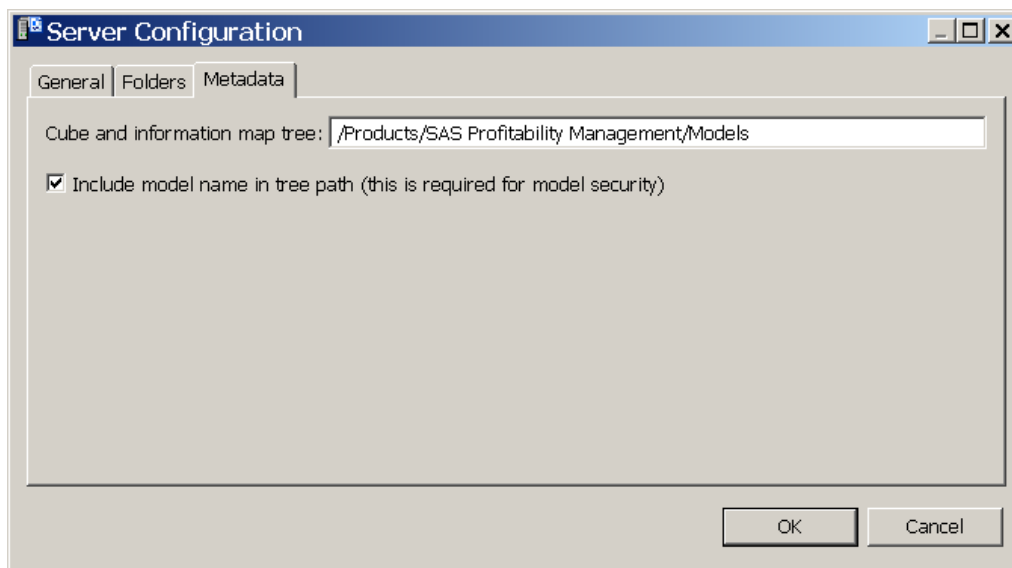
4. Select the **Folders** tab and verify the paths for SAS scripts and location of the models. For Windows Workspace Server, here is an example showing the **Folders** tab:



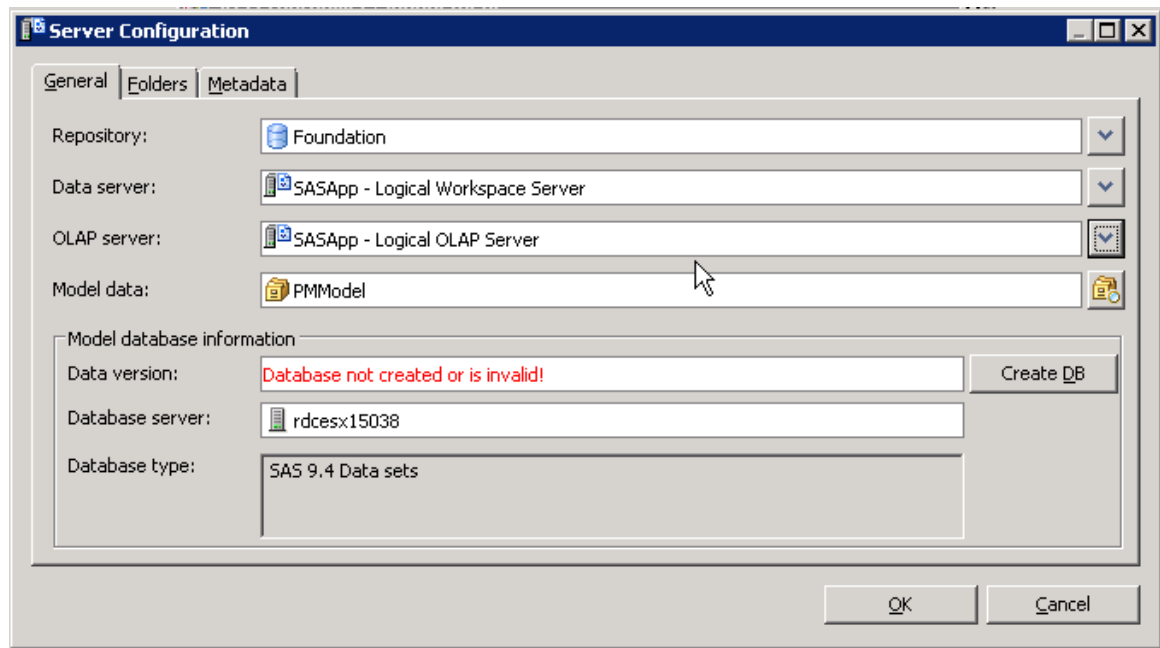
For a UNIX Workspace Server, the **Folders** tab will look like this. Note that the location of the SAS scripts on UNIX is different from the location on Windows.



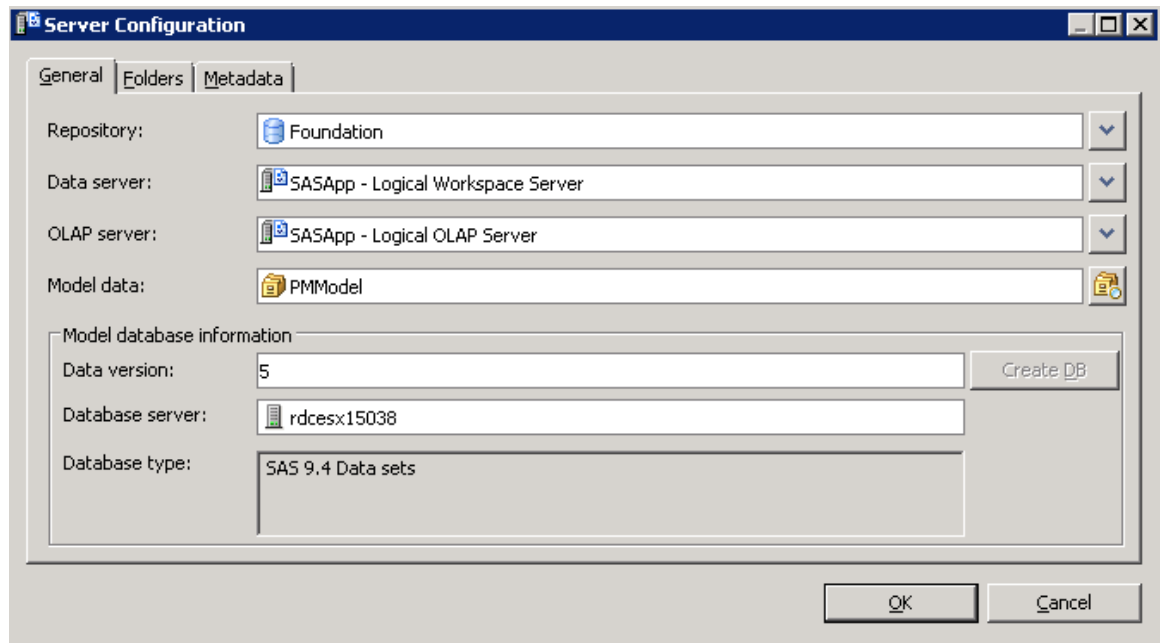
5. Select the **Metadata** tab and verify the metadata for the Cube and Information map tree. Leave the check box selected even if you do not plan to apply model-level security at present.



6. On the **General** tab, select the Foundation repository. For the Data Server, select the Logical Workspace Server. For the OLAP Server, select the Logical OLAP server. For model data, select **PMModel** library.



7. Click **Create DB**. This populates the PM model SAS library in the SAS Management Console. Once the required data has been supplied, the database is created and the version is displayed.



5. Click **OK** to close this dialog box.

Upgrading the SAS Profitability Management Database

If you are migrating from SAS Profitability Management 2.x, the SAS Migration Utility will try to migrate the existing PMModel datasets to the following locations.

Windows: *Configuration-Path\Lev1\AppData\SASProfitabilityMgmt\PMModel*

UNIX: *Configuration-Path/Lev1/AppData/SASProfitabilityMgmt/PMModel*

If the data sets are not migrated, you must create new PMModel data sets with the one you saved before the installation.

Use the SAS CIMPORT procedure to restore the data. If new PMModel is in C:\SAS\Config\Lev1\AppData\SASProfitabilityMgmt\PMModel, the following program will move the tranfile to pmModel:

```
libname pmModel 'C:\SAS\Config\Lev1\AppData\
SASProfitabilityMgmt\PMModel';

filename tranfile 'transport-file';

proc cimport library=pmModel infile=tranfile;

run;
```

You must add the old PM Users group as a member of the new Profitability Management Users group.

Using SAS/SHARE

If you plan to use SAS/SHARE to access your database, see [Chapter 7 - Using SAS/SHARE with SAS Data Sets](#) for configuration information.

Testing Your SAS Profitability Management Installation

Input data is required to test SAS Profitability Management. SAS Profitability Management 2.3 has shipped a set of sample input tables and a tutorial describing how to use them. By following the tutorial you will create a model and reports using the client and be able to view the reports on the web application. The tutorial document is named *Getting Started with SAS Profitability Management 2.3*. It can be found on the SAS Technical Support site at: <http://support.sas.com/documentation/onlinedoc/pm/>

Using the SAS Profitability Management Tutorial

A tutorial ZIP file, Tutorial.zip, which contains data sets to use with the tutorial, can also be found on the SAS Technical Support site at <http://support.sas.com/documentation/onlinedoc/pm/>

Follow the “Getting Started with SAS Profitability Management 2.3” link at the above site.

Test the SAS Profitability Management Windows Client

Open the SAS Profitability Management Client using sasdmo, and work through the SAS Profitability Management tutorial to do the following:

1. Create a model following the tutorial.
2. Create transactions.
3. Import the rules.
4. Import the associations.
5. Calculate the model.
6. Create the reports layout and hierarchy

7. Generate a report which consists of a cube and an information map. You must have the OLAP server running to generate the information map.

Test the SAS Profitability Management Web Reporting

To test the SAS Profitability Web Reporting on Windows, open the web browser and type in the URL for the SAS Profitability Management web application. The starting URL is

```
http://your-server-address/SASProfitabilityManagement/
```

Running SAS Profitability Management Diagnostics

SAS Profitability Management 2.3 ships with a diagnostics utility that is installed on all three Profitability Management tiers: the client, web, and server tiers. You start the diagnostics from the start menu in Windows, or an executable called ProfitabilityMgmtDiag on UNIX. On UNIX, the SAS Profitability Management Diagnostics is an X-window application. If you are running from a personal computer, you must set up the display to the computer. Here is an example:

```
DISPLAY=your-machine-absolute-address:0.0
export DISPLAY
```

The diagnostics utility performs two types of tasks. It verifies on the machine where it is running that the correct code and permission are defined. And it communicates with the Metadata Server to determine if the permissions are set up correctly for SAS Profitability Management.

The first dialog box lets you select the type of diagnostics to run. Note that you cannot diagnose that the client software exists if you are logged on to a machine that only has web software.

If you have problems invoking the diagnostics, open the ProfitabilityMgmtDiag.ini file. It is located in your diagnostic executable folder:

Windows: *SAS-install-path\SASProfitabilityManagementUtility\2.3\diagnostic*

UNIX: *SAS-install-path/SASProfitabilityManagementUtility/2.3/diagnostic*

Check for the following line:

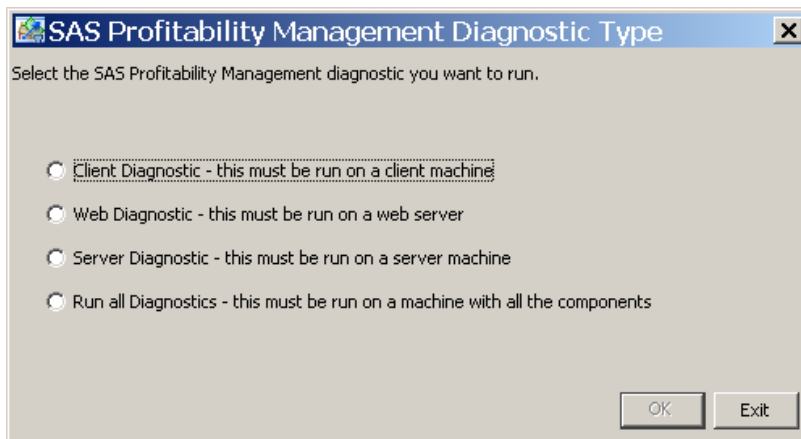
```
JavaArgs_4=-Dsas.app.class.path="path-to-junit.jar"
```

If the path is not specified, supply it with your path to `junit.jar`. For example, if you installed JUnit 4.8.1 in `C:\Program Files\JUNIT`, your path is `"C:\Program Files\JUNIT\junit-4.8.1.jar"` including the quotation marks.

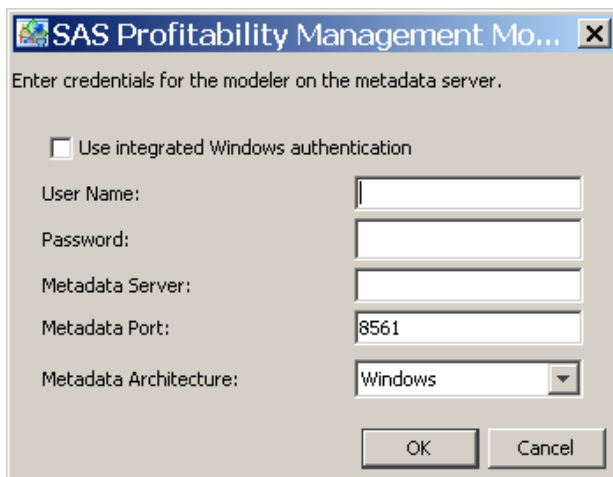
Update the following line to generate a log:

```
applogloc=launcher.log
```

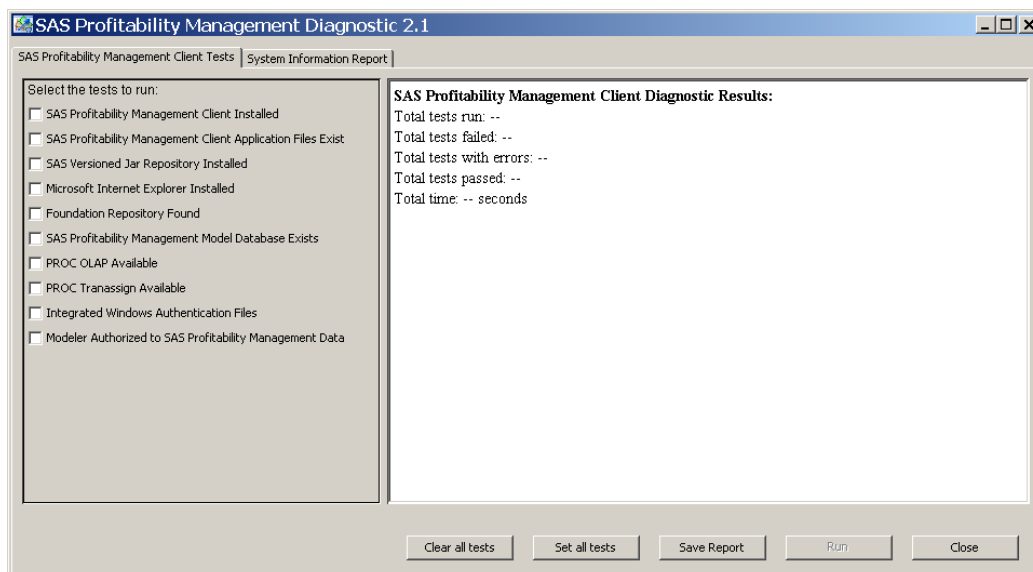
The following image shows the first dialog box of the diagnostic utility. You must select the diagnostic to run, depending on the machine where you are running the diagnostic.



The diagnostics will prompt you for a modeler login and other information. If you selected to test the server machines, you will also need the sasadm login to check the Profitability Management Users in SAS Metadata Console. If your servers are of mixed architecture, you must fully qualify the name of the Metadata Server.

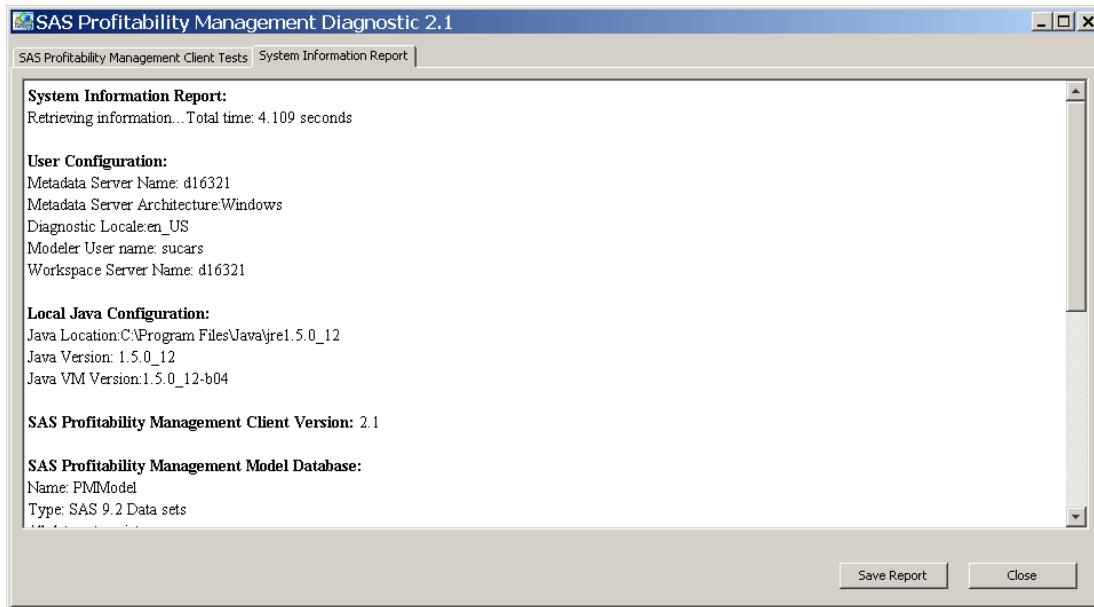


If you selected to test the client, the following dialog box opens. The first tab shown below appears. You can select to run one or more tests.



The log can be saved to the local machine. The file names are displayed on the tab after the report is saved. On Windows, the default location for this log is C:\Documents and Settings\user-ID\SAS\SAS Profitability Management Diagnostic\2.3. On UNIX, the default location for this log is //SAS/SAS Profitability Management Diagnostic/2.3.

The second tab displays information about the system where you are running.



If you have not created the database, or if the Metadata Server is not running, you will see errors.

The other type of diagnostic test for web and server machines has a similar user interface.

Chapter 6 – Optional Configuration Guide

For the following configuration, you must log on to SAS Management Console using the *SAS-Administrator-User* ID. For new installations of SAS Enterprise BI Server, the *SAS-Administrator-User* is sasadm@saspw, and an internal user. Substitute the appropriate user ID for *SAS-Administrator-User*.

Adding Additional PM Users

It is recommended that each Profitability Management user have his/her own login ID. To do this you must create an operating system user ID or use an existing operating system user ID. This user ID must be in the **PM Users** group for the operating system, and on Windows it should include the ability to log on as batch.

Adding Window Users to the PM Users Operating System Group

For each operating system user that will log in to SAS Profitability Management, you must add them to the Windows operating system **PM Users** group.

For Windows Server, add the users with the following steps:

1. Open the Computer Management tool: **Start**→ **Administrative Tools**→**Computer Management**.
2. Open the **Groups** folder under **Systems Tools**→**Local Users and Groups**.
3. Select the **PM Users** group, right-click, and select **Properties**.
4. Click **Add**.
5. Enter the *domain\username*.
6. Click **OK** twice.
7. Close the **Computer Management** dialog box.

Adding UNIX Users to the PM Users Operating System Group

For each operating system user that will login to SAS Profitability Management, you must add them to the UNIX operating system pmusers group. Use the appropriate system utilities to add a user with the following characteristics. Root permissions are required to perform this item.

1. Add a user (AIX is `mkuser` and Solaris is `useradd`)
2. Set its password (`passwd New-User`)
3. Set the expiration date to 99999 (AIX is `chuser -a` and Solaris is `usermod`)
4. Add members using the command `useradd -G Group-Name User-Name`.

Granting Permissions on Windows

When granting permissions, it is necessary to update the local security settings on the server.

1. Bring up the Local Security Policy application: **Start**→ **Administrative Tools**→**Local Security Policy**.
2. Under **Local Policies**, select **User Rights Assignment**.
3. Right-click **Log on as a batch job** and select **Properties**.
4. Click **Add User or Group...** and grant permission/policy to the group **PM Users**.

Create Additional SAS Profitability Management Metadata Users

Create a SAS Profitability Management user in the SAS Management Console for each operating system user that will login to SAS Profitability Management.

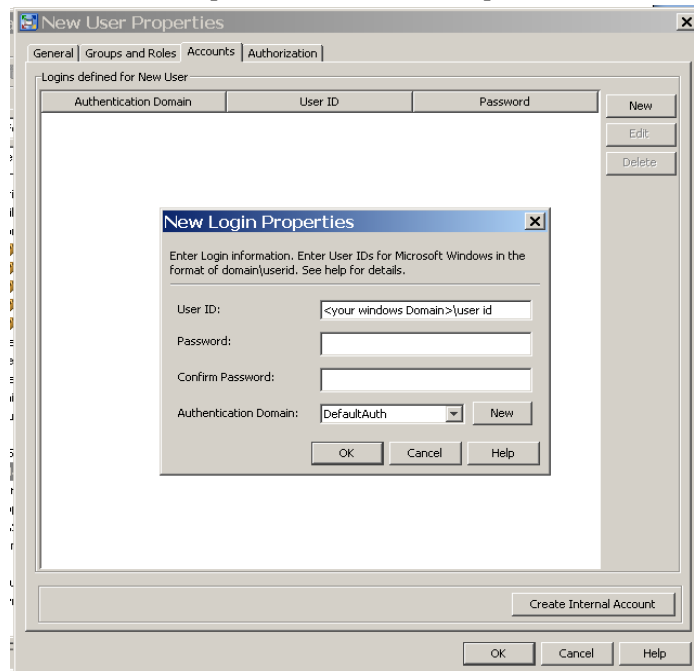
1. Open the SAS Management Console using *SAS-Administrator-User*.
2. Click on the **Plug-ins** tab at the top.
3. Select the **Foundation** repository.
4. Expand **Environment Management** branch.
5. Select **User Manager**.
6. Right-click **User Manager** and select **New > User**.
7. Name: *any-name*
8. Select the **Groups and Roles** tab.
9. Select the **Profitability Mgmt Users** group and click the **right arrow** to add the user to the group.
10. Select the **Accounts** tab.
11. Click **New**.
12. Enter a valid operating-system user ID. For Windows, it should be prefixed by the domain. For UNIX, no prefix is required. If the Metadata Server and other servers, OLAP and Workspace, are of different architectures, you will need two accounts for the user.
13. Select the appropriate authentication domain. **DefaultAuth** works as expected. If you have a mixed-architecture server environment, select the authentication domain of the Metadata Server.
14. Click **OK** on **New Login Properties**.
15. Click **OK** on **New User Properties**.
16. Repeat steps 5 through 15 to add additional users.
17. Close the SAS Management Console.

Integrated Windows Authentication (IWA)

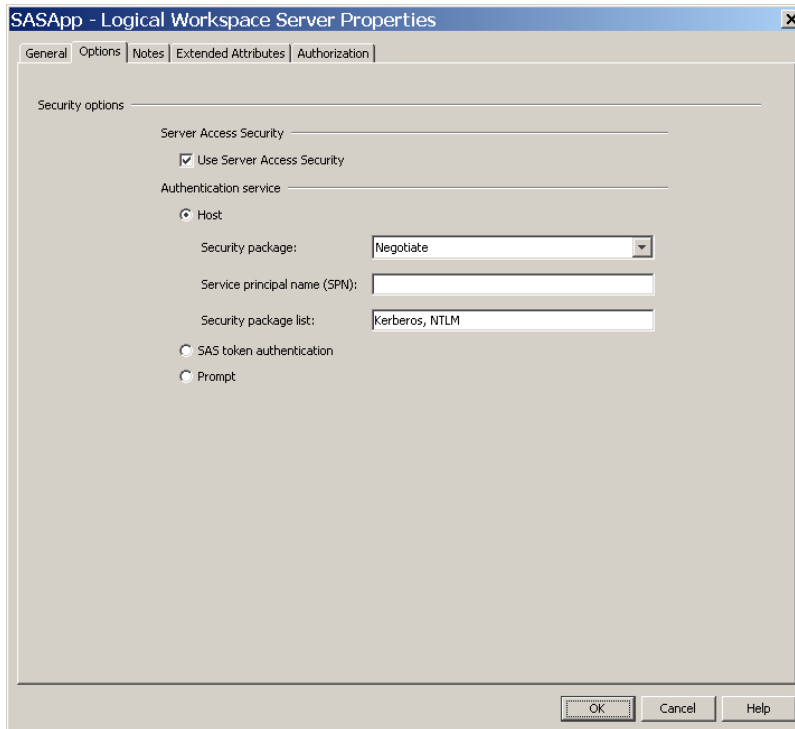
For release 2.3, SAS Profitability Management can take advantage of Windows authentication. If your Metadata Server is a Windows machine on the same network as your users, you can use Windows authentication for logging on to SAS Profitability Management.

Windows authentication has three requirements:

1. You must use a network user ID.
2. You must create a user in SAS Management Console with the format *account-domain\user ID*. Passwords are not required. Here is an example:



3. On the Logical Workspace Server, you must be set to **Negotiate**. This can be configured during installation, but if it has not been set, open SAS Management Console and change the Security package to Negotiate.
5. From the Plug-in tab of the SAS Management Console, expand **Environment Management, Server Manager, and SASApp**. Right-click on the **SASApp – Logical Workplace Server** and select the **Options** tab.



Model Security

SAS Profitability Management allows you to customize who has read/write permission for a particular model. There is no support for read-only access.

To enable model security customization, you must have selected the check box labeled **Include model name in tree path** on the **Metadata** tab during the server configuration. The Server configuration can be found under the Edit menu on the SAS Profitability Management client.

After a model is created in SAS Profitability Management, open SAS Management Console and set the metadata folder permissions. For new users, the models are stored in metadata folders under `/Products/SAS Profitability Management/Models`. Migrated users can find their models under `/SharedData`.

The Models folder should allow all PM Users all permissions except for Administer.

If you want to restrict Model1 from metadata user A, take the following steps:

1. Open SAS Management Console with user ID *SAS-Administrator-User*.
2. Click on the **Folders** Tab at the top.
3. Expand **Products** tree until you can see the model. Open the SAS Profitability Management and Models branches.
4. Right-click the folder named **Model1** and select **Properties**.
5. Select the **Authorization** tab and add the new user.
6. Set the new user with all permissions marked **Deny**.
7. Select **OK** to save the properties.

This method can also be done for a group of users.

From the SAS Profitability Management Client, a user can see the models that s/he cannot edit in the Organize Models dialog box, but cannot interact with them.

Procedure Options

The code templates that SAS Profitability Management 2.3 uses to calculate and generate cubes now have optional parameters that you can pass to the procedures. You must edit each template. The templates, named xxxxTemplates.sas, are found on one of the following locations.

Windows: `SAS-install-path\SASFoundation\9.4\abmprofmva\sasmisc`

UNIX: `/SAS-install-path/SASFoundation/9.4/misc/abmprofmva`

If you change them, you must place them in the location specified in the Server configuration's SAS scripts. You can change this location using the server configuration from the SAS Profitability Management Client.

1. CalculateModelTemplate.sas

Proc Tranassign options should go between the following bracket keys

```
PROC TRANASSIGN OPTIONS BEGIN> <PROC TRANASSIGN OPTIONS END>
```

2. CreateCubeTemplate.sas

Proc OLAP options should go between the following bracket keys

```
<PROC OLAP OPTIONS BEGIN> <PROC OLAP OPTIONS END>
```

3. CreateMapTemplate.sas

Proc InfoMap options should go between the following bracket keys

```
<PROC INFOMAPS OPTIONS BEGIN> ..... <PROC INFOMAPS OPTIONS END>
```

The valid proc options are described in the corresponding documentation for Proc Tranassign, Proc OLAP, and Proc InfoMap. Here is an example of adding the Debug option into the Proc InfoMap statement:

```
<PROC INFOMAPS OPTIONS BEGIN> DEBUG=YES <PROC INFOMAPS OPTIONS END>
```

Logging

SAS Profitability Management 2.3 provides logging for the client and the web applications.

Client Logging

The client logging is controlled by the `log4j.properties` file in the `SASProfitabilityManagementClient/2.3` directory. It is initially set to Warn. When generated, the log is saved in the current directory and is named `sas.solutions.profitability.client.log`.

If you are a Windows Vista or Windows 7 user, you must change the `log4j.appender.file.File` parameter to include a directory outside of the Program Files directory. Update the following line:

```
log4j.appender.file.File=c:\\directory\\sas.solutions.profitability.client.log
```

Web Logging

Web logging is controlled by SASProfitabilityManagement-log4j.xml file in the configuration directory under Web\Common.

Windows: *Configuration-Path\Lev1\Web\Common\LogConfig*

UNIX: */Configuration-Path/Lev1/Web/Common/LogConfig*

The logs named SASProfitability2.3.log are generated in the configuration directory under Web\Logs.

Windows: *Configuration-Path\Lev1\Web\Logs*

UNIX: */Configuration-Path/Lev1 Web/Logs*

Chapter 7 - Using SAS/SHARE with SAS Data Sets

The SAS/SHARE server enables multiple clients to effectively share the same SAS file at the same time. If multiple SAS Profitability Management users will be accessing the same model at the same time, configure the PMModel database to run on a SAS/SHARE server.

Your plan file should have included the SAS/SHARE server. After installation and configuration have been completed, you should see “Share Server - *host name*” in the list of servers in SAS Management Console.

Modify the PMModel Library to be a SAS/SHARE Server Library

To modify the existing library PMModel on the SAS/Server, open SAS Management Console on a Windows client.

1. If necessary, log on to the SAS Management Console with user ID *SAS-Administrator-User*.
2. Click the **Plug-ins** tab at the top.
3. Select the **Foundation** repository.
4. Expand **Environment Management** branch
5. Expand **Data Library Manager**
6. Right-click **PMModel** and select **Properties**.
7. Select the **Assign** pane and change **Selected servers** from **SASApp** to **Share Server - *host name***.
8. Select the **Options** pane and select **Advanced Options...**
9. Verify that the check box labeled **Library is Pre-Assigned** is checked.
10. Click **OK**.
11. Restart SAS/SHARE Server.

For Windows, restart the SAS/SHARE Server service.

For UNIX, execute the command:

```
SAS-Config/Levl/ShareServer/ShareServer.sh restart
```

Create the SAS/SHARE Client Library

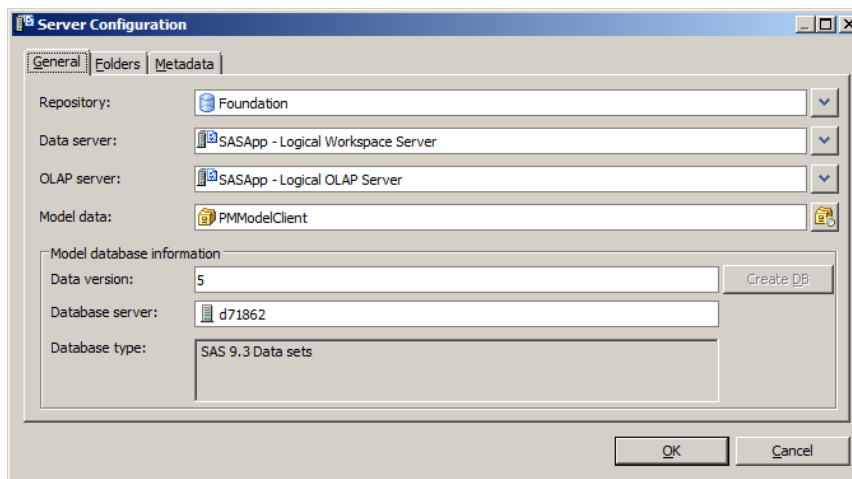
To create the SAS/SHARE client library on the SAS server, open SAS Management Console on a Windows client machine.

1. If necessary, log onto to SAS Management Console with user ID *SAS-Administrator-User*.
2. Click on **Plug-ins** tab at the top.
3. Select the **Foundation** repository.
4. Expand **Environment Management** branch.
5. Expand **Data Library Manager**.

6. Right-click **Libraries**, and select **New Library**.
7. Select **SAS/SHARE REMOTE Engine Library**, and click **Next**.
8. Enter “PMModelClient” for the **Name**.
9. Select a SAS folder location for the new library (and verify that the Profitability Management group has all the authorization rights to that folder).
10. Click **Next**.
11. Add **SASApp** as **Selected servers**.
12. Enter a unique libref, and click **Next**.
13. Select **Share server - host name** for the **SAS/SHARE Server** parameter.
14. Select **PMModel** for the field **SAS/SHARE Server Library**, and click **Next**.
15. Review the summary and click **Finish**.

Configure SAS Profitability Management to Use SAS/SHARE

1. Start SAS Profitability Management client.
2. Click the **Edit** menu and select **Server Configuration**.
3. On the **General** tab, browse the **Model data** library to use the SAS/SHARE client library (PMModelClient).
4. Click **OK**.





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