

# **SAS<sup>®</sup> Profitability Management 2.21**

## **Installation, Migration and Configuration Guide**



## Copyright Notice

The correct bibliographic citation for this manual is as follows: SAS Institute Inc., *SAS® Profitability Management 2.21 Installation, Migration and Configuration Guide*, Cary, NC: SAS Institute Inc., 2011.

**SAS® Profitability Management 2.21 Installation, Migration and Configuration Guide**  
Copyright © 2011 SAS Institute Inc., Cary, NC, USA.

All rights reserved. Printed in the United States of America. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, by any form or by any means, electronic, mechanical, photocopying, or otherwise, without the prior written permission of the publisher, SAS Institute Inc. Limited permission is granted to store the copyrighted material in your system and display it on terminals, print only the number of copies required for use by those persons responsible for installing and supporting the SAS programming and licensed programs for which this material has been provided, and to modify the material to meet specific installation requirements. The SAS Institute copyright notice must appear on all printed versions of this material or extracts thereof and on the display medium when the material is displayed. Permission is not granted to reproduce or distribute the material except as stated above.

U.S. Government Restricted Rights Notice. Use, duplication, or disclosure of the software by the government is subject to restrictions as set forth in FAR 52.227-19 Commercial Computer Software-Restricted Rights (June 1987).

SAS Institute Inc., SAS Campus Drive, Cary, North Carolina 27513.

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries.

® indicates USA registration.

Other brand and product names are trademarks of their respective companies.

## Table of Contents

<b>Chapter 1 – Using These Instructions.....</b>	<b>1</b>
<b>Technical Support.....</b>	<b>1</b>
<b>Chapter 2 – Pre-Migration Guide .....</b>	<b>3</b>
<b>Cleaning Up the Existing Profitability Management Data Model.....</b>	<b>3</b>
Deleting Detail Report Cubes .....	3
Deleting Unused Summary Report Cubes .....	3
<b>Backing up the System .....</b>	<b>3</b>
<b>Running SAS Migration Utility .....</b>	<b>4</b>
<b>Chapter 3 – Pre-Installation Guide .....</b>	<b>7</b>
<b>SAS Software.....</b>	<b>7</b>
<b>Designating Ports.....</b>	<b>7</b>
About Ports and Multicast Addresses.....	7
<b>Java 2 JDK for Web Server .....</b>	<b>9</b>
Windows .....	9
UNIX .....	9
<b>Java 2 Runtime Environments for SAS Servers.....</b>	<b>9</b>
<b>Java 2 Runtime Environments for Clients .....</b>	<b>10</b>
<b>Web Application Servers .....</b>	<b>10</b>
JBoss Application Server .....	10
Oracle WebLogic Server .....	10
IBM WebSphere Application Server.....	10
Post-Installation Steps for JBoss, WebLogic, and WebSphere Application Servers .....	11
<b>JUnit for SAS Profitability Management Diagnostic .....</b>	<b>11</b>
<b>User ID for Installations.....</b>	<b>11</b>
<b>Chapter 4 – Installation Guide .....</b>	<b>13</b>
<b>Installation Set-up .....</b>	<b>13</b>
Creating User Accounts .....	13
Windows .....	13
UNIX .....	14
Creating and Updating Groups .....	14
Windows .....	14
UNIX .....	15
Granting Permissions on Windows .....	15
Installing on UNIX .....	15
Multi-Server Installs .....	16
<b>Single Server Installation.....</b>	<b>16</b>
Getting Started .....	16
Third Party Installation.....	16
Java JDK.....	16
JUnit.....	16
Web Server Applications.....	17
Install SAS Server Software.....	17
<b>Multiple Server Installation .....</b>	<b>21</b>

<b>Incremental Server Install .....</b>	<b>22</b>
Review Updates .....	23
Install the SAS Application Server .....	23
Install the Middle Tier .....	25
<b>Windows Client Installation .....</b>	<b>26</b>
Getting Started .....	26
Third Party Installation.....	26
Java Runtime .....	26
JUnit.....	27
Install SAS Client Software .....	27
<b>Chapter 5 – Post-Installation Guide .....</b>	<b>29</b>
<b>Updating SASUsers Group Permissions .....</b>	<b>29</b>
Setting Up Metadata Users for Mixed Architecture Environments .....	29
Validating SAS Workspace Server and OLAP Server .....	30
Defining Permissions for PM Folders and Files .....	31
<b>Creating the SAS Profitability Management Database .....</b>	<b>32</b>
<b>Upgrading the SAS Profitability Management Database .....</b>	<b>36</b>
Using SAS/SHARE .....	36
<b>Setting Up Server Configuration after Migration.....</b>	<b>37</b>
Setting Permissions on Metadata Folders.....	39
<b>Testing Your SAS Profitability Management Installation .....</b>	<b>39</b>
Using the SAS Profitability Management Tutorial .....	40
Test the SAS Profitability Management Windows Client .....	40
Test the SAS Profitability Management Web Reporting on Windows .....	40
Test the SAS Profitability Web Management Reporting on UNIX .....	41
Running SAS Profitability Management Diagnostics.....	42
<b>Chapter 6 – Post-Migration Guide .....</b>	<b>45</b>
<b>Update the Code Templates .....</b>	<b>45</b>
<b>Copy Input Data Sets.....</b>	<b>45</b>
<b>Deleting Summary Report Cubes .....</b>	<b>45</b>
Delete Unneeded System Files .....	45
Delete Unneeded Metadata.....	46
<b>Chapter 7 – Optional Configuration Guide .....</b>	<b>47</b>
<b>Adding Additional PM Users.....</b>	<b>47</b>
Adding Window Users to the PM Users OS Group.....	47
Adding UNIX Users to the PM Users OS Group .....	47
Granting Permissions on Windows .....	48
Create Additional SAS Profitability Management Metadata Users .....	48
<b>Integrated Windows Authentication (IWA) .....</b>	<b>49</b>
<b>Model Security.....</b>	<b>50</b>
<b>Procedure Options.....</b>	<b>51</b>
<b>Logging .....</b>	<b>51</b>
Client Logging.....	51
Web Logging .....	52
<b>Using SAS/SHARE with SAS Data Sets.....</b>	<b>52</b>
Modify the PMModel Library to be a SAS/SHARE Server Library.....	52
Create the SAS/SHARE Client Library.....	53
Configure SAS Profitability Management to Use SAS/SHARE .....	53

# 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
- Post-Migration Guide – Chapter 6
- Optional Configuration Guide – Chapter 7

Before you start, refer to the *SAS Profitability Management 2.21 Systems Requirements* document for information about third-party software and operating system specifications. It is located on the SAS Technical Support Web site at

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

Chapter 2, the Pre-Migration Guide, contains steps that need to be done if you are migrating from SAS Profitability Management 1.3 or 2.x to 2.21. These steps need to be done 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 need to be taken for a successful installation of SAS Profitability Management 2.21.

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

Chapter 6, the Post-Migration Guide, contains the steps to update changes you have made to code templates and clean up old data.

Chapter 7, the Optional Configuration Guide, contains steps that you can optionally do for additional security and logging. It also contains steps for setting up SAS/Share for Profitability Management. Please verify that 'Include SAS/SHARE Server Configuration 9.3' is selected at the Distribute Components tab of the SAS Planning Application when creating the plan file for SAS/SHARE to be properly configured and available for use by SAS Profitability Management.

## **Technical Support**

Please visit the SAS Technical Support Web site, <http://support.sas.com>, for installation updates.

For product documentation please visit the SAS Technical Support Documentation web site <http://support.sas.com/documentation/onlinedoc/pm/>

### **Note to the reader:**

Words in examples that are enclosed in < less than or >greater than symbols are meant to be replaced by information from your system.

For instance, `<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, then replace `<SAS install path>` with

`D:\Program Files\SAS`

Also, `<Configuration Path>` should be replaced by the path where your configuration is installed. If you installed the configuration on `/opt` path and used a configuration name of `Config`, then replace `<Configuration Path>` with `/opt/SAS/Config`.

## Chapter 2 – Pre-Migration Guide

If you are migrating from SAS Profitability Management 1.x or 2.x to 2.21, first refer to the *SAS 9.3 Intelligence Platform Migration Guide* at

<http://support.sas.com/documentation/cdl/en/bimig/62613/PDF/default/bimig.pdf>.

Migration should only be done on the Middle Tier (Web server) and the Data-Tier (Workspace Server and Proc Tranassign). There is no migration necessary for the clients. On multiple machine deployments, run the migration utility first on the machine hosting the SAS Metadata Server.

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

### ***Cleaning Up the Existing Profitability Management Data Model***

#### **Deleting Detail Report Cubes**

Detail cubes are deleted when the user logs off the SAS Profitability Management Web Application. If a user exits out of the Web Application without logging off, the detail cubes and information maps are not deleted. So this is a good time 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 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.

#### **Deleting Unused Summary Report Cubes**

If you are migrating from 9.1.3, all cubes need to be regenerated. If there are reports you are no longer using, delete the reports in SAS Profitability Management Client prior to migration. You can delete these reports by going to the Reports workspace in SAS Profitability Management Client, select each report and click on Remove.

### ***Backing up the System***

Backing up the SAS 9.1.3 or 9.2 System is explained in the *SAS 9.3 Intelligence Platform Migration Guide*. Also you must back up the PM Model data sets. Since 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 does.

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 9.3 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`=should be the machine name of the metadata server
5. `SMU.port.metadata`=should be the port on the metadata server, normally **8561**
6. `SMU.user`=should be the metadata server administrative user, normally **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, then you need to 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, then you need to determine the URL and user ID for the DA. Open SAS Management Console 9.1.3 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 needed if you specified a user ID for DAV in SMC

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



Make sure 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 via 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 then include `-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 OS. For example, for Win32 of 9.2 to 9.3, it is `smu92_32.exe`; for Wx64 of 9.3 to 9.3, it is `smu93_x64.exe`.*



## 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 must be done before you install SAS Profitability Management.

### SAS Software

During the installation, you will need to have 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 either the SAS Download Manager or install the software from DVDs. For detailed instructions on the SAS Download Manager refer to [http://support.sas.com/demosdownloads/sysdep\\_t1.jsp?packageID=000738](http://support.sas.com/demosdownloads/sysdep_t1.jsp?packageID=000738)

For detailed instructions on the SAS Software Depot, please refer to the quickstart guide at <http://support.sas.com/qsgesdplan93.html>

Then install the product from the SAS Software Depot using the SAS Deployment Wizard. For detailed instructions on the SAS Deployment Wizard, please refer to the *SAS Deployment Wizard User's Guide* at <http://support.sas.com/deploywizug93.html>

### Designating Ports

#### About Ports and Multicast Addresses

While you are creating operating system user accounts and groups, you need to 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 on the following ports pre-installation table.

You also need to plan for designating Internet Protocol (IP) multicast addresses for all the machines in your SAS deployment. This topic is beyond the scope of installing SAS Profitability Management. For more information please see “Setting Up Users, Groups, and Ports” in the *SAS 9.3 Intelligence Platform Installation and Configuration Guide* at <http://support.sas.com/documentation/cdl/en/biig/62611/PDF/default/biig.pdf>

The following table is not a complete list of the ports used by SAS products. It is a list of the ports that will be used by SAS Profitability Management. For more information on ports, please refer to “Designating Ports and Multicast Addresses” in the *SAS 9.3 Intelligence Platform Installation and Configuration Guide* at

<http://support.sas.com/documentation/cdl/en/biig/62611/PDF/default/biig.pdf>

Server	Default Port	Actual Port	Machine Name
Application Server (choose one):	8080		
• JBoss EAP (additional SAS servers increment by 100)	7001		
• Oracle WebLogic (additional SAS servers increment by 100)	9080		
• IBM WebSphere (additional SAS servers increment by 1)			
Database Port (choose one):			
• Microsoft SQL Server	1433 <sup>3</sup>		
• Oracle	1521 <sup>3</sup>		
• MySQL	3306 <sup>3</sup>		
SAS OLAP Server Port <sup>1</sup>	5451		
SAS Metadata Server	8561		
SAS Workspace Server <sup>2</sup>	8591		
SAS Deployment Tester Server	10021		
SAS Foundation Services <sup>4</sup>	5091		
SAS Object Spawner	8581		
SAS/Share (if used)	8551		

<sup>1</sup> This port is for the workspace server on the *OLAP Server* machine

<sup>2</sup> This port is for the workspace server on the *Proc Transsign Server* machine

<sup>3</sup> This is the default port for the default instance. If you create a named instance, the port may differ

<sup>4</sup> This is usually located on the *Metadata Server* machine

The default port assignment is based upon 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, then the default ports may have been reassigned during the installation of the product. Please 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 need access to the Java 2 Software Developers Kit (JDK). Please ensure that the Java 2 JDK is installed on the server that hosts the Web page and have it in the *Path* systems environment variable. See the *SAS Profitability Management 2.21 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 web site or you may follow the link from the SAS Technical Support Web site:

<http://support.sas.com/resources/thirdpartysupport/v93/jdks.html>

## Windows

You should install Java Platform Standard Edition 6.0 Development Kit (JDK) and make sure that it is in your path.

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

1. Select **Start**→**Control Panel**→**System**. In the **System** dialog, 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, normally C:\JDK 1.6.0\_24\bin. If the path contains another j2jdk, remove it. Click **OK** for each of the windows opened.

**Note:** Please 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

The following commands set the PATH environment variable on UNIX. These statements can be added to the .profile file of the user that is running the installation. Alternatively this can be added to a common profile 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 need a Java Runtime Engine (JRE). The version depends on the web application server and the operating system.

Java 2 JRE can be found at the Oracle download web site or you may follow the link from the SAS Technical Support Web site:

<http://support.sas.com/resources/thirdpartysupport/v93/jres.html>

## Java 2 Runtime Environments for Clients

The computer that hosts only the SAS Profitability Management rich client does not need the full Java 2 JDK. It only needs the Java Runtime Engine (JRE) 1.6.0\_24 or newer.

Java 2 JRE can be found at the Oracle download web site or you may follow the link from the SAS Technical Support Web site:

<http://support.sas.com/resources/thirdpartysupport/v93/jres.html>

## Web Application Servers

The SAS Profitability Management Web server needs a web application server installed on the same server machine. You need to pick one of the following web application servers and install it.

1. JBoss Application Server or
2. BEA WebLogic or
3. IBM WebSphere Application Server

See the *SAS Profitability Management 2.21 Systems Requirements* for the minimum level of the web application server for the operating system of your Web server.

Verify that the default Port is available for the particular web server so that the web server can properly respond to HTTP requests without conflicting with other Web servers. The default Ports are as follows:

Web Server	Default port
JBoss Application Server	8080
BEA WebLogic Server	7001
IBM WebSphere Application Server	9080

If the default port is not available reconfigure the other application, then resolve the conflict. If you need to change the port, then you will need to make changes in the application manager for applications that use this web application manager.

### JBoss Application Server

Install JBoss Application Server on the machine hosting the SAS Profitability Management Web Application.

Please refer to *JBoss Application Server Support for SAS 9.3* at

<http://support.sas.com/resources/thirdpartysupport/v93/appservers/jbossw.html>

### Oracle WebLogic Server

Install Oracle WebLogic Application Server on the machine hosting the SAS Profitability Management Web Application. You should contact Oracle for this server.

Please refer to *Oracle WebLogic Server Support for SAS 9.3* at

<http://support.sas.com/resources/thirdpartysupport/v93/appservers/weblogicsw.html>

### IBM WebSphere Application Server

Install IBM WebSphere Application Server on the machine hosting the SAS Profitability Management Web Application.

Please refer to *IBM WebSphere Application Server Support for SAS 9.3* at <http://support.sas.com/resources/thirdpartysupport/v93/appservers/webspheresw.html>

## **Post-Installation Steps for JBoss, WebLogic, and WebSphere Application Servers**

Please follow the post-installation steps at <http://support.sas.com/resources/thirdpartysupport/v93/appservers/postinstall.html>.

## ***JUnit for SAS Profitability Management Diagnostic***

SAS Profitability Management Diagnostic 2.21 needs access to JUnit 4.8.1 software to run. It can be installed from the JUnit organization Web site,

<http://sourceforge.net/projects/junit/files/junit>

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

<http://support.sas.com/resources/thirdpartysupport/v93/other.sw.html>

Install the software on the same machine as 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 permissions, 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 need 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 of the documentation will guide you through the installation of SAS Profitability Management 2.21.

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

1. New Single Server Installation , or
2. New Multiple Server Installation, or
3. Incremental Install over SAS 9.3 Enterprise BI Server.

Pick the instructions 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, please visit our Technical Support website, <http://support.sas.com>, for any additional information. In particular, refer to the *SAS 9.3 Intelligence Platform: Installation and Configuration Guide* at

<http://support.sas.com/documentation/cdl/en/bimig/62613/PDF/default/bimig.pdf>

**Important:** *Certain hot fixes may cause problems with the operation of SAS Profitability Management. Please contact SAS Technical Support before applying any SAS hot fixes or service packs 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 needed by the installation process and the other user account will be the first client user, sasdmo. On Windows servers, networked user accounts are needed if the metadata server is on a separate machine from the other SAS servers.

If you choose 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 not have to be reset on first log-on. It is also preferable that the passwords for these accounts do not 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. Fill in the user name (**sassrv** or **sasdmo**)

5. Fill in the descriptions (**SAS Server User** or **SAS Demo User**) and password.
6. Deselect **User must change password at next login**.
7. Select **User cannot change password**.
8. Select **Password never expires**.
9. Click **Create**.
10. Continue with step 3 thru 8 until you have both of the 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* <NewUser>)
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, make sure that the “User can LOGIN?” setting is set to “true” for the user.

The table below can be printed and used to record the passwords and locations for each user account. The values entered in this table will be used 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	sasrv	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 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 sasdmo to it. Later you will add the SAS Profitability Management users to it.

Use 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, you need to create a UNIX group to hold the ID for the SAS Server user (*sassrv*), First Time Users (*sasdemo*), and SAS installer. We recommend that you name this group *sas*. Also you need to create another group called *pmusers* and add *sasdemo* to it.

Use the following steps:

1. Create a group using *groupadd*.
2. Set the primary group of *sassrv* and SAS installer users to *sas* group via 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 7 Optional Configuration Guide,” you will add the SAS Profitability Management users to it.

## Granting Permissions on Windows

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

1. Bring up the Local Security Policy application via **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 may have 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 need to set up the display to your personal computer. An example of this is:

```
DISPLAY=<yourmachine_absolute_address>:0.0
export DISPLAY
```

Make sure software depot has execution permissions throughout. If not, use following command:

```
chmod -R 0755 /<depotLocation>/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 Servers 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 9.3 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 9.3 Enterprise Intelligence Platform see the Incremental Server Install section.

### Getting Started

1. Stop any web server application such as JBoss, WebLogic, or WebSphere.
2. Download your software into a SAS Software Depot that is accessible to all machines you want to install on.
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 2.21 Systems Requirements*. The document is at <http://support.sas.com/documentation/onlinedoc/pm/>

1. Ensure 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\_21 in the usr directory, issue the following commands:

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

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

### JUnit

Check the correct version for your operating system in the *SAS Profitability Management 2.21 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 2.21 Systems Requirements* at <http://support.sas.com/documentation/onlinedoc/pm/>

Ensure that one of the following Web servers has been installed.

1. JBoss Application Server or
2. Oracle WebLogic Server or
3. IBM WebSphere Application Server

## 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 make sure that **Install SAS Software** and **Configure SAS Software** options are both checked. 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 for whether you want 32-bit or 64-bit SAS programs. Choose 64-bit if you are installing on 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. Use the default (recommended Java Runtime Environment). 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.
19. SAS Profitability Management 2.21 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 1.3 or 2.x, click **Next** on the Specify Configuration Information dialog. If you are migrating, enter the same directory you did for 1.3 or 2.x.
21. Review the local Machine Name and click **Next**.
22. If you are not migrating from 1.3 or 2.x, leave the **Perform migration** checkbox unchecked on the Migration Information dialog. Click **Next**.  
  
If you are migrating then make sure you have run the SAS Migration Utility (SMU). Check the **Perform migration** checkbox and specify the location of the directory that contains the SMU file. Then click **Next**.
23. The next dialogs are for configuring the SAS application. The number of prompts depends upon what you are installing. Below is a table with the appropriate actions. You must click **Next** to move onto the next Dialog.

Dialog Title	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 Datasets
SAS Metadata Server	Review the <b>Metadata Server</b> and <b>port</b>
Deployment Accounts: Type of Accounts	Select <b>Use SAS internal accounts when appropriate</b>
External Account Installer	Enter your operating system password
SAS Internal Account: Unrestricted Administrator	Enter password that you want to use for the sasadm@saspw unrestricted user
SAS Internal Account: Trusted User	Enter password that you want to use for the sastrust@saspw user
Anonymous Web Access	Uncheck the <b>Enable Anonymous Web Access</b>
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 .

Dialog Title	Action to perform
Deployment Accounts: First User	Check <b>Set up a first User Identity</b> – This is needed to verify the SAS Profitability Management Installation
External Account: First User	On Windows, supply the operating system domain\user ID for sasdmo. 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 <b>Next</b>
SAS Object Spawner: Port Bank	Click <b>Next</b>
SAS Application Server: Server Context	Select SASApp
SAS Workspace Server	Just click <b>Next</b>
Metadata Utility Workspace Server	Just click <b>Next</b>
SAS Pooled Workspace Server	Just click <b>Next</b>
SAS Stored Process Server	Just click <b>Next</b>
Stored Process Server: Multi-bridge Connection	Just click <b>Next</b>
SAS OLAP Server	Just click <b>Next</b>
SAS/CONNECT Spawner	Just click <b>Next</b>
SAS/SAHRE Server (if needed)	Just click <b>Next</b>
SAS Framework Data Server	Just click <b>Next</b>
SAS Framework Data Server: Transactional Database Files	Just click <b>Next</b>
SAS Data Step Batch Server	Just click <b>Next</b>
Metadata Utility SAS DATA Step Batch Server	Just click <b>Next</b>
Operating System Services	Just click <b>Next</b>
SAS Deployment Tester Server	Select the JUnit jar file that was installed as a prerequisite.
SAS Remote Services Application	Just click <b>Next</b>
Event Broker Ports	Just click <b>Next</b>
Web Application Server: Automatic Configuration	Check <b>Automatically Configure your Web Application Server.</b>
Web Application Server: Scripting Configuration	Uncheck <b>Cache Credentials</b>
Web Application Server: Managed Server	Just click <b>Next</b>
Web Application Server: Managed Server Ports	Just click <b>Next</b>
WebLogic or Web Server prompts (if not using JBoss)	Click <b>Next</b> thru them all
Web Application Server: Automatic Deployment	Check <b>Automatically Deploy Web Applications</b>
SAS Web Application Themes	Click <b>Next</b>
IP Version	Revise if needed and click <b>Next.</b>
IP Multicast	Revise if needed and Click <b>Next.</b>
SAS Distributed In-Process Scheduling Server	Just click <b>Next</b>

Dialog Title	Action to perform
SAS Web Report Studio: Clustering Support	Uncheck the box if you are not using clustering for <b>SAS Web Report Studio</b>
SAS Web Report Studio: Scheduling	Uncheck the box if you are not using scheduling for <b>SAS Web Report Studio</b>
SAS Content Server: Repository Directory	Just click <b>Next</b>
SAS Web Infrastructure Platform: Database Type	Just click <b>Next</b>
SAS Information Delivery Portal: Samples	Just click <b>Next</b>
SAS Web Infrastructure Database JDBC Properties	Just click <b>Next</b>
SAS Profitability Management Utility: Required Software	Specify the JUNIT jar path
SAS Flex Application Themes	Just click <b>Next</b>

24. Select **View Install Alert Notes** and close the page.
25. Click **Start** to perform the deployment.
26. When the deployment is complete click **Next**.
27. Review the manual configuration steps by clicking on the **URL** provided.
28. Perform all the **Validation** steps.
29. You might get 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
```
30. After the **Validation** steps are done, close the page.
31. Click **Finish** to close the SAS Deployment Wizard.
32. 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 support 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. An example is given below.

Server	Required SAS Software
Metadata Server	Base SAS 9.3 and SAS Metadata Server 9.3
Workspace, OLAP, and Transaction Assign Server	Base SAS 9.3 and SAS OLAP Server 9.3 and SAS Workspace Server 9.3 SAS/ACCESS if you access any RDMS
Web Server or Middle Tier	SAS Web Infrastructure Platform 9.3 SAS Web Report Studio 4.31

You can follow the steps for the single server install 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** uncheck the box. The **SASApp** server is created in the **Metadata Server** install.

## Incremental Server Install

If you have already installed SAS 9.3 Enterprise Intelligence Platform on your servers, you can perform an incremental install of SAS Profitability Management 2.21 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.

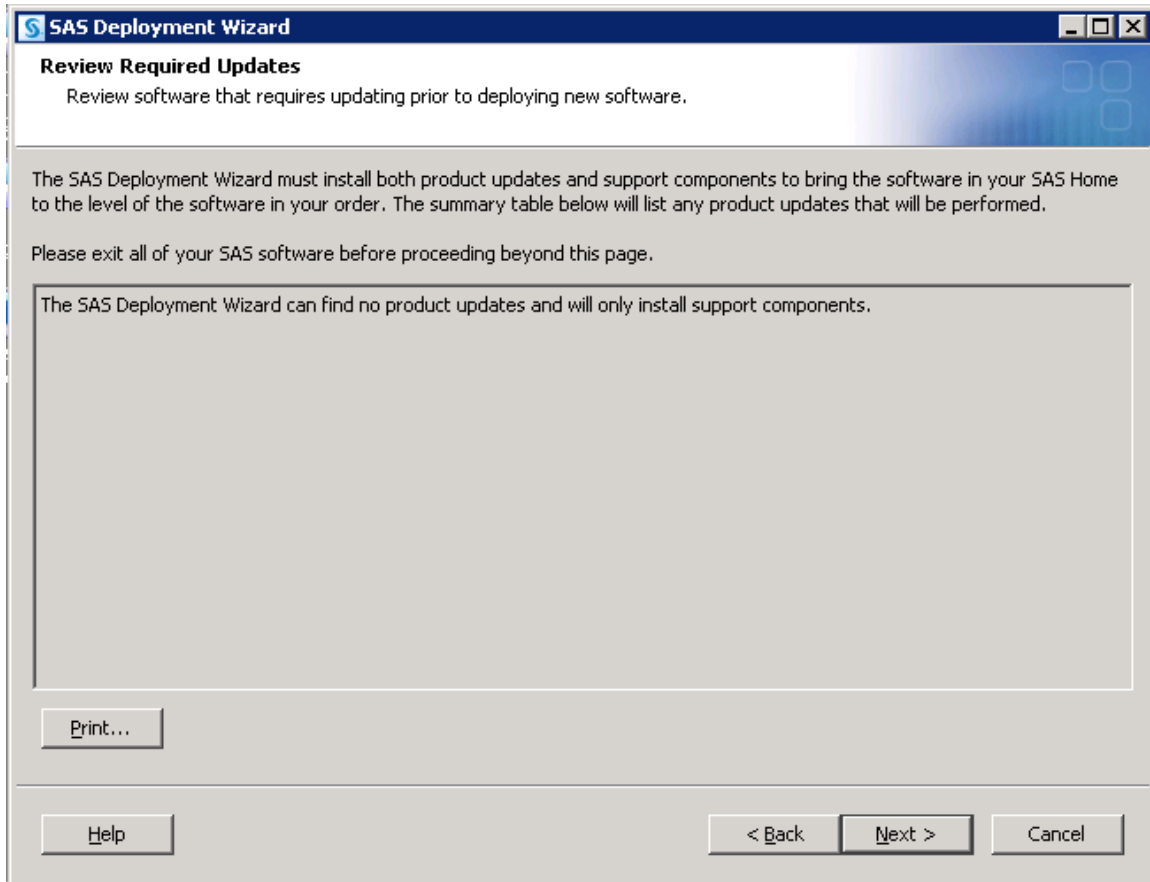
You should do the incremental install for the application server machine such as Workspace or OLAP Server, then the middle tier machine and finally the client machine. The plan should include the software you already have installed as well as the Profitability Management Software.

The following table shows the components of SAS Profitability Management. If you are installing on only one machine you don’t need install the Utility more than once.

Machine	Profitability Management products
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. For an example, see the dialog below:



Follow the dialogs to install the necessary updates. Once this is finished, you must restart the SAS Deployment Wizard to install the additional software.

## Install the SAS Application Server

On the SAS application server machine you should install the SAS Profitability Management Data Tier and the SAS Profitability Management Utility. Make sure 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.
 

<b>Windows:</b>	Invoke the setup.exe from the SAS Software depot
<b>UNIX:</b>	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.
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 make sure 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:
 

<b>Windows:</b>	<code>&lt;SAS Software Depot&gt;\plan_files\plan.xml</code>
<b>UNIX:</b>	<code>&lt;SAS Software Depot&gt;/plan_files/plan</code>
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 Java Runtime (it must be a 32-bit version) and click **Next**.
13. SAS Profitability Management 2.21 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 get 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 1.3 or 2.x then leave the **Perform migration** unchecked. If you are migrating then check **Perform migration**. Click **Next**.
19. The next dialogs are for configuring the SAS Application. The number of prompts depends upon what you are installing. Below is a table with the appropriate actions. You must click **Next** to move onto the next dialog.  
  
 Please refer to the dialog 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 is complete, 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 machine you should install the SAS Profitability Management Middle Tier (Web) and the SAS Profitability Management Utility. Make sure the Java Software Development Kit, JUnit, and your chosen web application server are installed on this machine.

1. Make sure the SAS Metadata server and Object Spawner are started.
2. 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.
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 will be prompted to specify a directory to install the SAS software and click **Next**.
7. Select a **Planned Deployment** and make sure 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:** `<SAS Software Depot>\plan_files\plan.xml`
  - UNIX:** `<SAS Software Depot>/plan_files/plan`
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 don't want a SAS OnlineDoc archive.
12. Review the **Required Software**, there should be a **web server** and may be a **Java Development Kit** and click **Next**.
13. Specify the locations for the required software and press **Next** on each required software location dialog
14. SAS Profitability Management 2.21 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**.
15. Browse to the location of the existing configuration directory and click **Next**.

16. If you get a message that the configuration directory already exists, click **yes**. And 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 1.3 or 2.x then leave the **Perform migration** unchecked and click **Next**.
19. Supply the metadata server host name and port. Click **Next**.
20. The next dialogs are for configuring the SAS Application. The number of prompts depends upon what you are installing. Below is a table with the appropriate actions. You must click **Next** to move onto the next Dialog.  
Please refer to the dialog notes in the **Install SAS Server Software** section in **Single Server Installation**.
21. **View Install Alert Notes** and **close** the page.
22. Click **Start** to perform the installation and configuration.
23. When deployment is complete, 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. You will need to 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 2.21 Systems Requirements*. The document is at <http://support.sas.com/documentation/onlinedoc/pm/>

1. Ensure that 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 details.

## JUnit

Check the correct version for your operating system in the *SAS Profitability Management 2.21 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 to view the SAS Deployment Wizard other than English, but the following instructions are available only in English.

Note: If you have additional software from what is required by SAS Profitability Management then there will be 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 to view 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 will be prompted to specify a directory to install the SAS software and click **Next**.

6. Select a Planned Deployment and make sure that Install SAS Software and Configure SAS Software options are both checked. Click **Next**.

Choose the "Specify the full path to a customized deployment plan..." option. 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. Make sure 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 that you would like 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 get 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** unchecked and click **Next**.
16. Check this box if you want to **Use Integrated Windows Authentication**. All machines must be Windows and the data model should be in SAS Datasets
17. Supply the metadata server host name and port. 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 is complete, 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. There are two types of tests 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 make sure all the input and output data is correctly registered.

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

You need to logon to SAS management Console using the SAS Administrator User. For new installations of SAS Enterprise BI Server, the SAS Administrator User ID is *sasadm@saspw*, 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>.

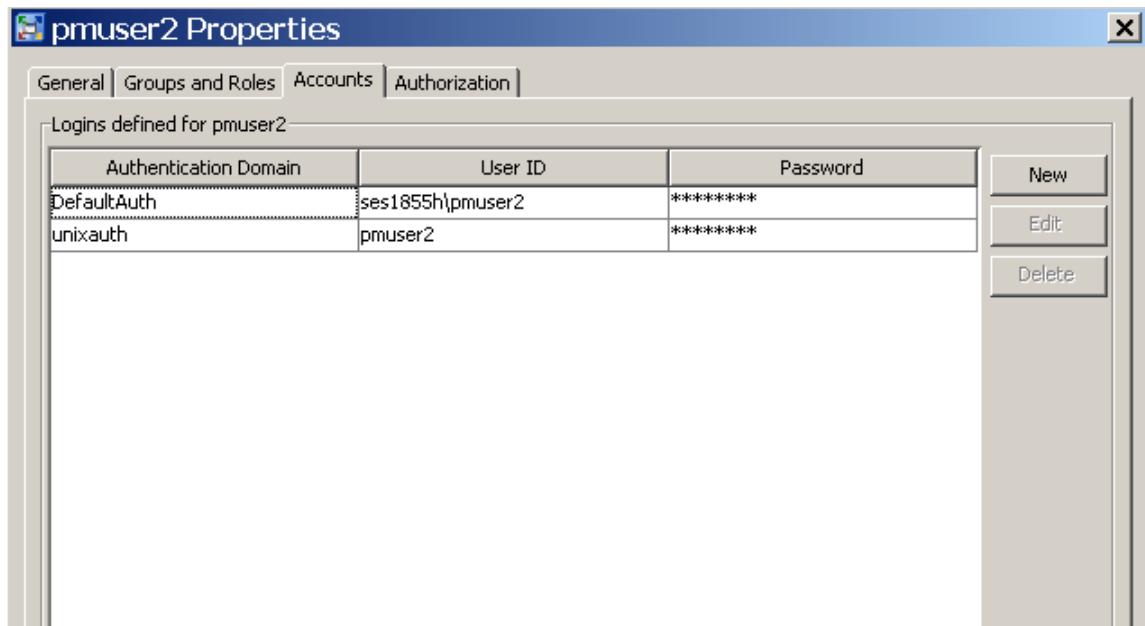
### Updating SASUsers Group Permissions

If you are migrating from Profitability Management 1.3 to 2.21, you need to give the SAS Users group more permission in the Default ACT. Follow the steps below:

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** and **Authorization Manager** branch.
5. Expand **Access Control Templates**.
6. Right click on the **Default ACT** and select **Properties**.
7. Select the **Permission Pattern** tab.
8. If the **SASUsers** group is not listed as one of the Users or Groups then
  - a. Click the **Add...** button.
  - b. Select the **SASUsers** group from the **Available Identities** and move it to the **Selected Identities**.
  - c. Click on **OK**.
9. Now that the **SASUsers** is in the list, select it and make sure it has **ReadMetadata**, **WriteMetadata** and **CheckInMetadata** permissions are granted.
10. Remove the **pmusers** group from the default access control template.
11. Click on **OK**.

### Setting Up Metadata Users for Mixed Architecture Environments

If the servers you use for Profitability Management are of mixed architectures, Windows and UNIX, then you need to make sure that the pm 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, you need to validate that the workspace and OLAP servers are still functioning.

1. Open the SAS Management Console with user ID<SAS Administrator User>.
2. Click on the **Plug-ins** at the top.
3. Select the **Foundation** repository.
4. Expand **Environment Management**, **Server Manager** and **SASApp** branches.
5. Right mouse click on the **SASApp-Logical OLAP Server** and select **Validate**.
  - a. If the validation is successful, then 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, then check the file in the backup directory for the correct information
6. Right mouse 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 has the setting for SASROOT and SAS\_COMMAND:

### Windows:

```
SET SASROOT=C:\Program Files\SASHome\SASFoundation\9.3
```

```
SET SAS_COMMAND=%SASROOT%\sas.exe
```

**UNIX:**

```
SET SASROOT=/SASHome/SASFoundation/9.3
```

```
SET SAS_COMMAND=%SASROOT%\sas.exe
```

- c. If the file is not correct, then 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

Profitability Management users need 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

Profitability Management directory on the Workspace Server are located in the following path depending upon what operating system the Workspace Server is installed and whether or not you are migrating SAS Profitability Management 1.3 or 2.x to 2.21

**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. Please see the *SAS Profitability Management Tutorial* for information to create input data sets. It is located on the SAS Technical Support site at <http://support.sas.com/documentation/onlinedoc/pm/>

SAS Profitability Management configuration creates the SAS Profitability Management 2.21 directory. You must set its permission for your operating system group PM Users.

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

On Windows, you should set PM Users group permission 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*) has 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>/Lev1/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 details and more options. Putting umask in the WorkspaceServer.sh will affect all products/solutions that use the script to launch their SAS Workspace Server.

## Creating the SAS Profitability Management Database

If you are migrating from Profitability Management 1.3 to 2.21, **skip** this section and refer to the Upgrading SAS Profitability Management Database section below. If you are updating from Profitability Management 2.1 or 2.2, **skip** this section and the section on Upgrading SAS Profitability Management Database section below. There have been no database changes since 2.1

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, normally SAS Demo User (*sasdemo*), that you created during installation. Make sure that *sasdemo* is in the operating system PM Users group and that the group has the all **permissions** for the Profitability Management directory.

**Windows:** <Configuration Path>\Lev1\AppData\SASProfitabilityMgmt

**UNIX:** <Configuration Path>/Lev1/AppData/SASProfitabilityMgmt

**Do not manually put anything in 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 are in a separate metadata folder.

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

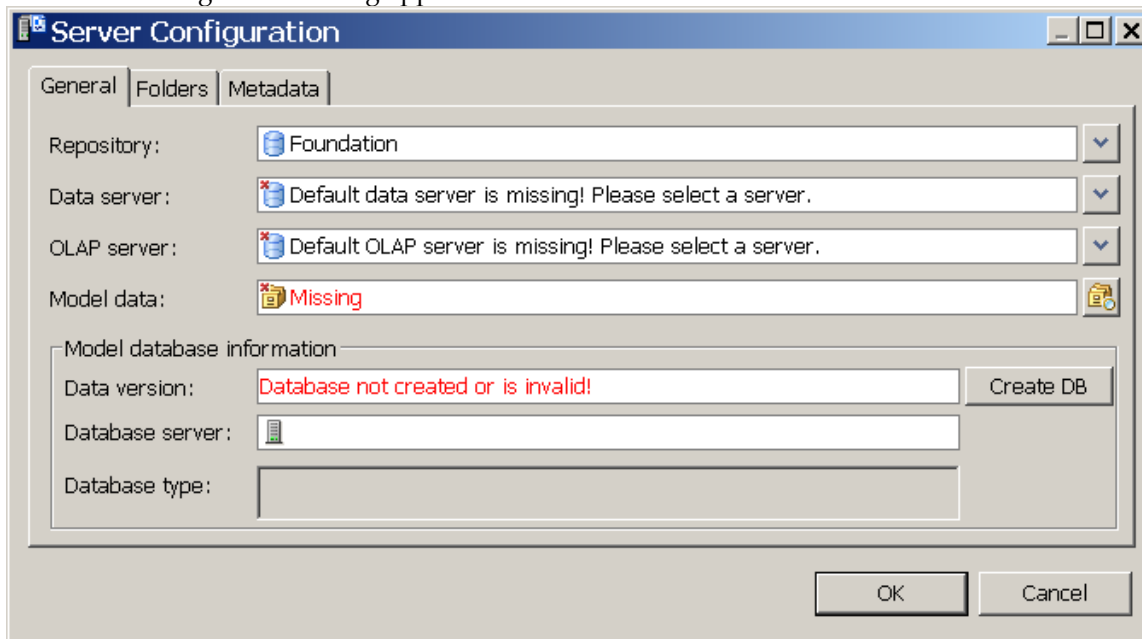
1. Launch the SAS Profitability Management client. You will be prompted to log into the SAS Metadata Server.



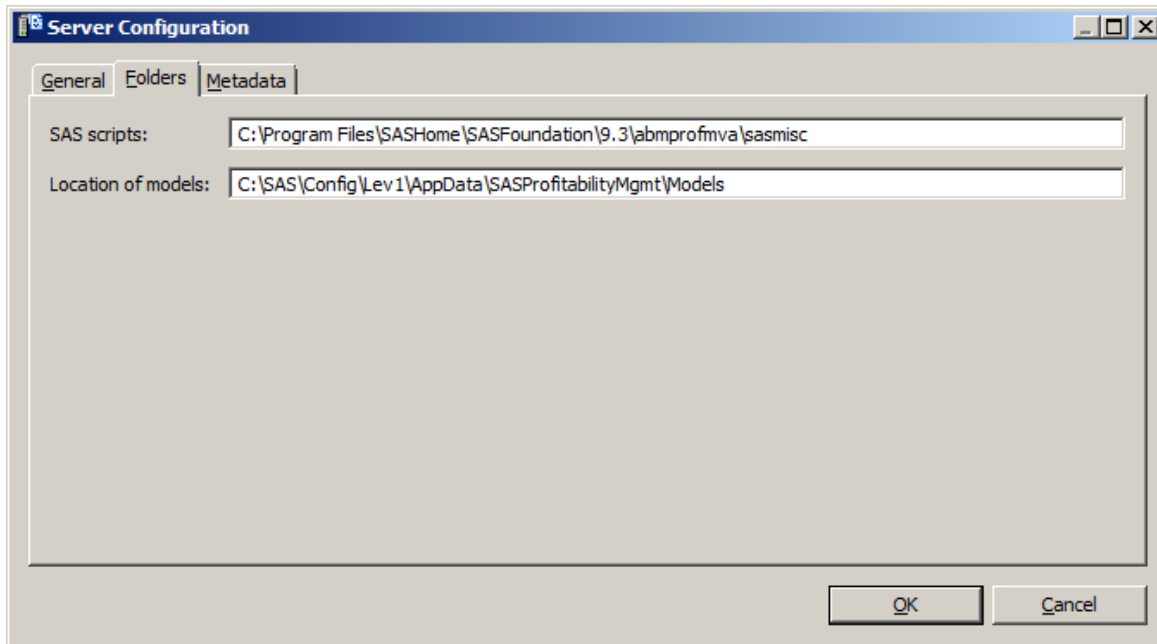
2. Enter a user name and password that is valid for your metadata installation. If the user is a network windows user, then prefix the user name with its domain and a "\". If your

servers are of mixed architecture, then you must fully qualify the name of the metadata server.

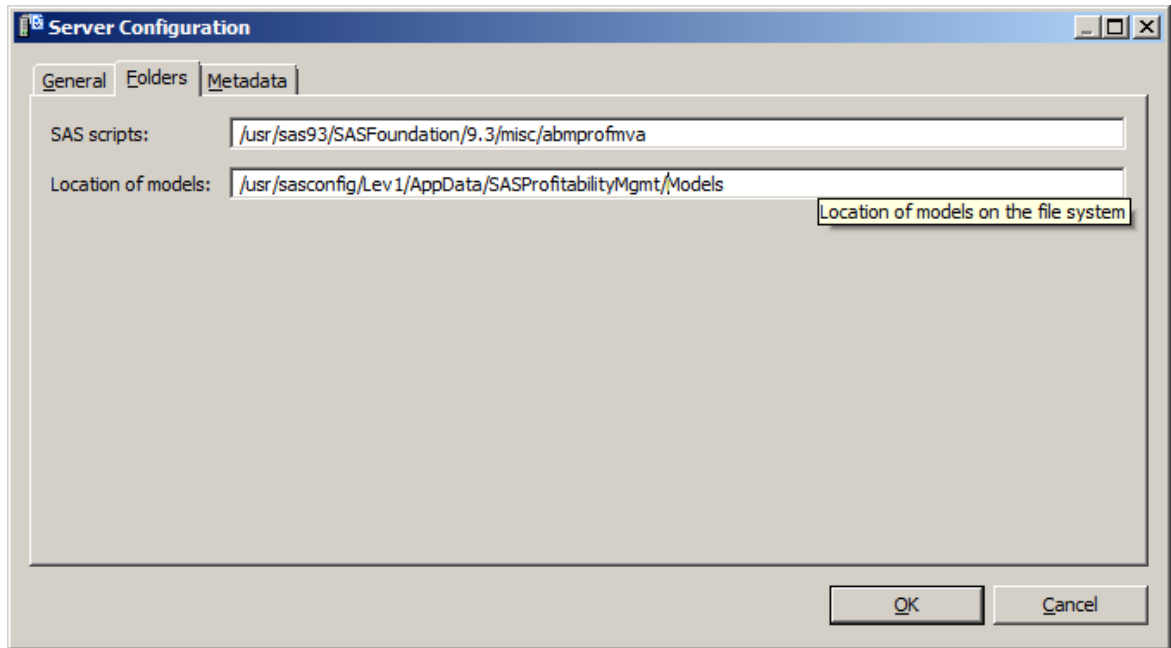
3. The Server configuration dialog appears.



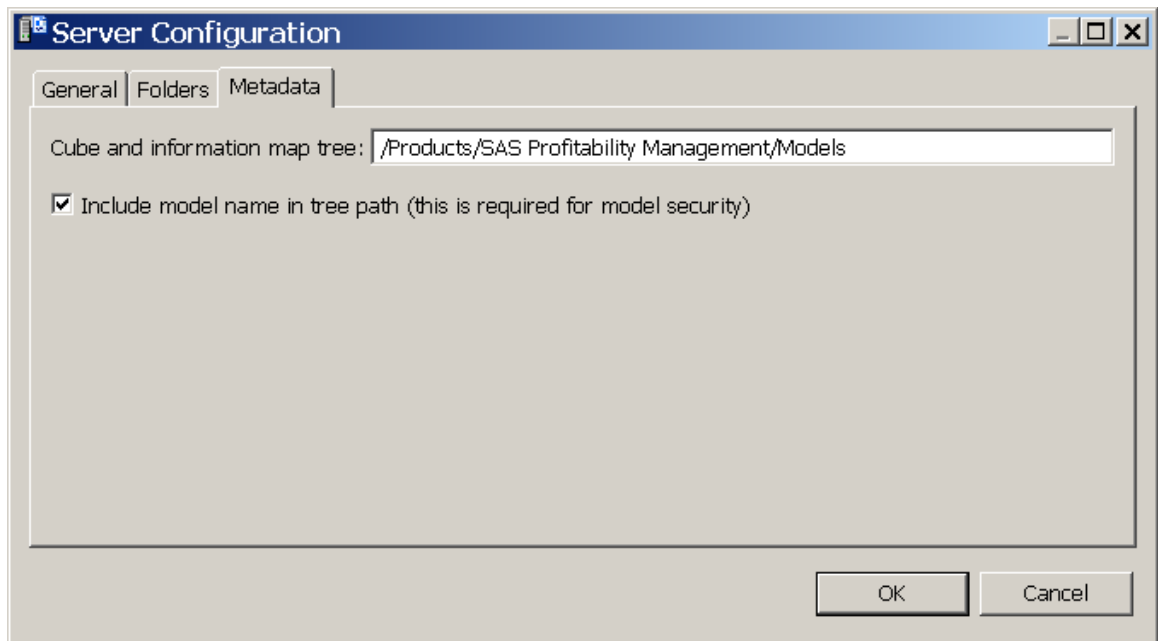
4. Select the **Folders** tab and verify the paths for SAS scripts and location of the models. For Windows Workspace Server, the Folder tab looks like this:



For a UNIX workspace server, the **Folders** tab will look like this. Notice 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 checkbox checked even if right now you do not plan to do model level security.



- 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.

**Server Configuration**

General | Folders | Metadata

Repository: Foundation

Data server: SASApp - Logical Workspace Server

OLAP server: SASApp - Logical OLAP Server

Model data: PMModel

Model database information

Data version: Database not created or is invalid! Create DB

Database server: d71862

Database type: SAS 9.3 Data sets

OK Cancel

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

**Server Configuration**

General | Folders | Metadata

Repository: Foundation

Data server: SASApp - Logical Workspace Server

OLAP server: SASApp - Logical OLAP Server

Model data: PMModel

Model database information

Data version: 5 Create DB

Database server: d71862

Database type: SAS 9.3 Data sets

OK Cancel

Click **OK** to close this dialog.

## Upgrading the SAS Profitability Management Database

If you are migrating from SAS Profitability Management 1.3 or 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 datasets are not migrated, you need to 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 transfile to pmModel:

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

filename tranfile 'transport-file' ;

proc cimport library=pmModel infile=tranfile;
run;
```

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

## Using SAS/SHARE

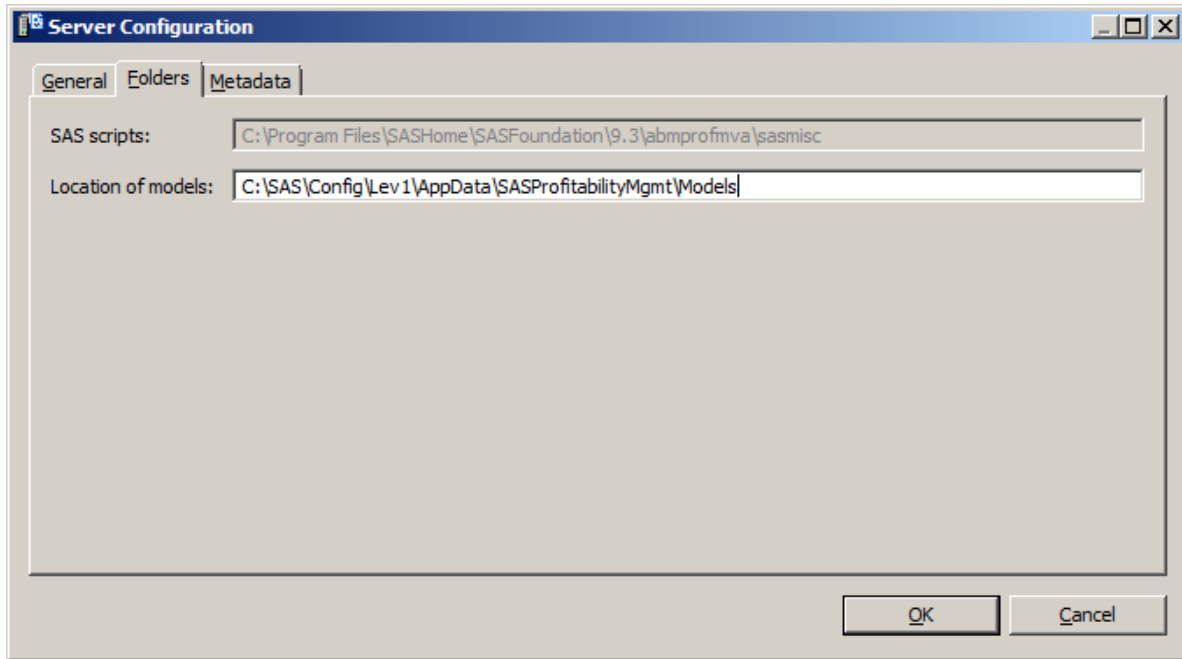
If you plan to use SAS/SHARE to access your database, see Chapter 7 for configuration information.



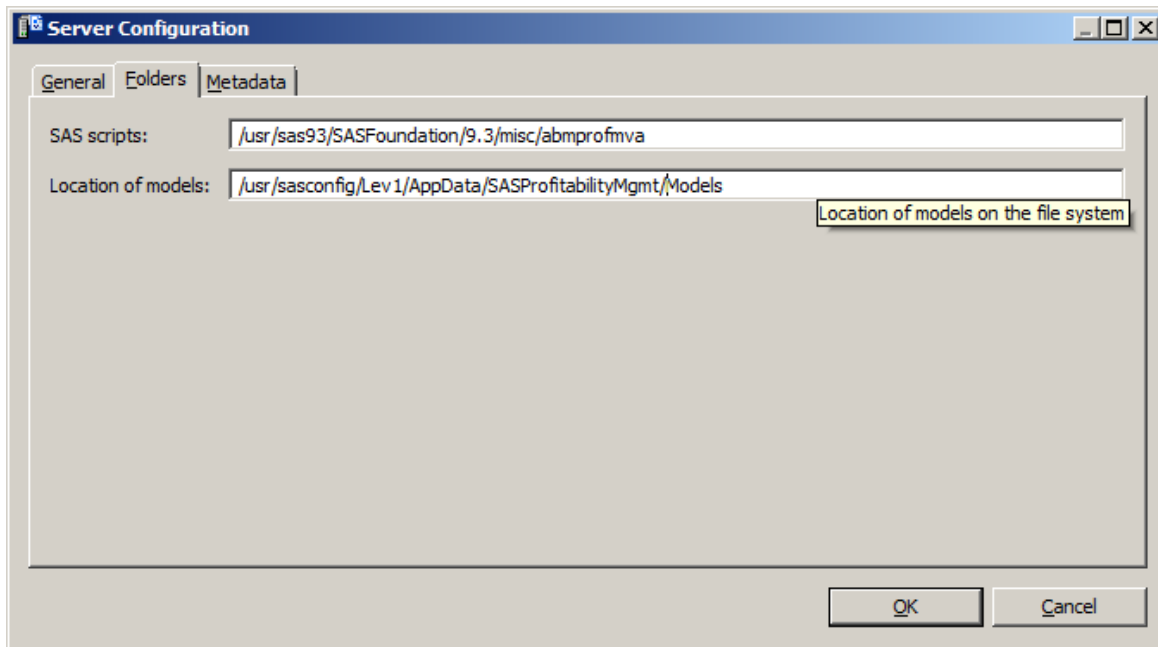
## Setting Up Server Configuration after Migration

If you migrated SAS Profitability 1.3 to 2.21, one user should log into the client before the other users using sasdemo. PM will prompt this client to upgrade the database. Before you click the button to update the database, select the Folders tab and verify the paths for SAS scripts, and change the location of the Model data to the location you used with PM 1.3.

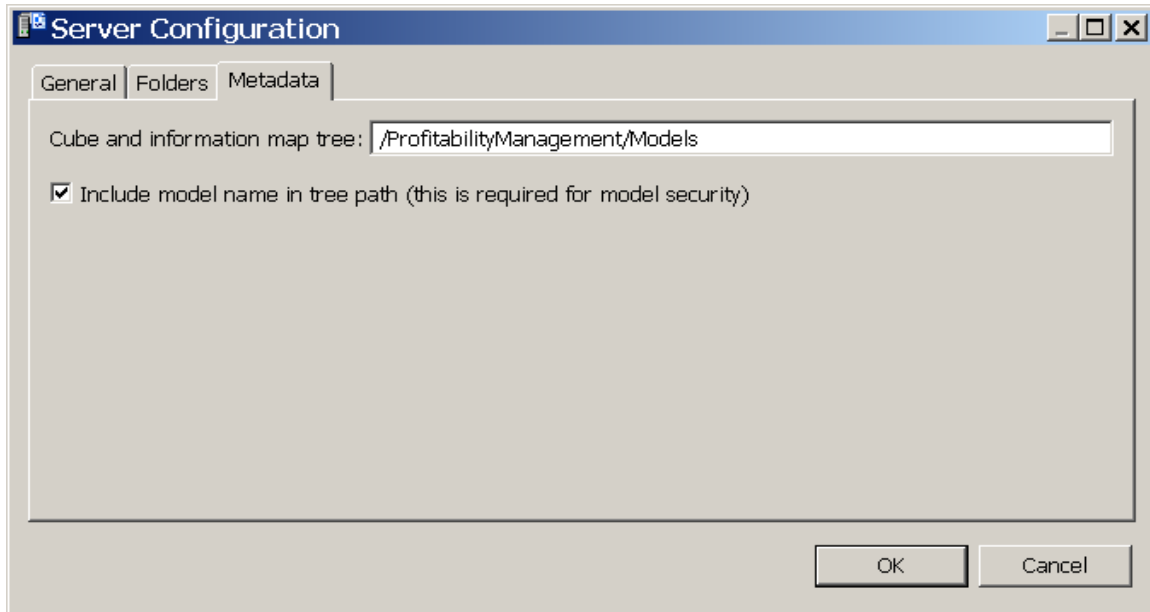
For Windows Workspace Server, it will look like this:



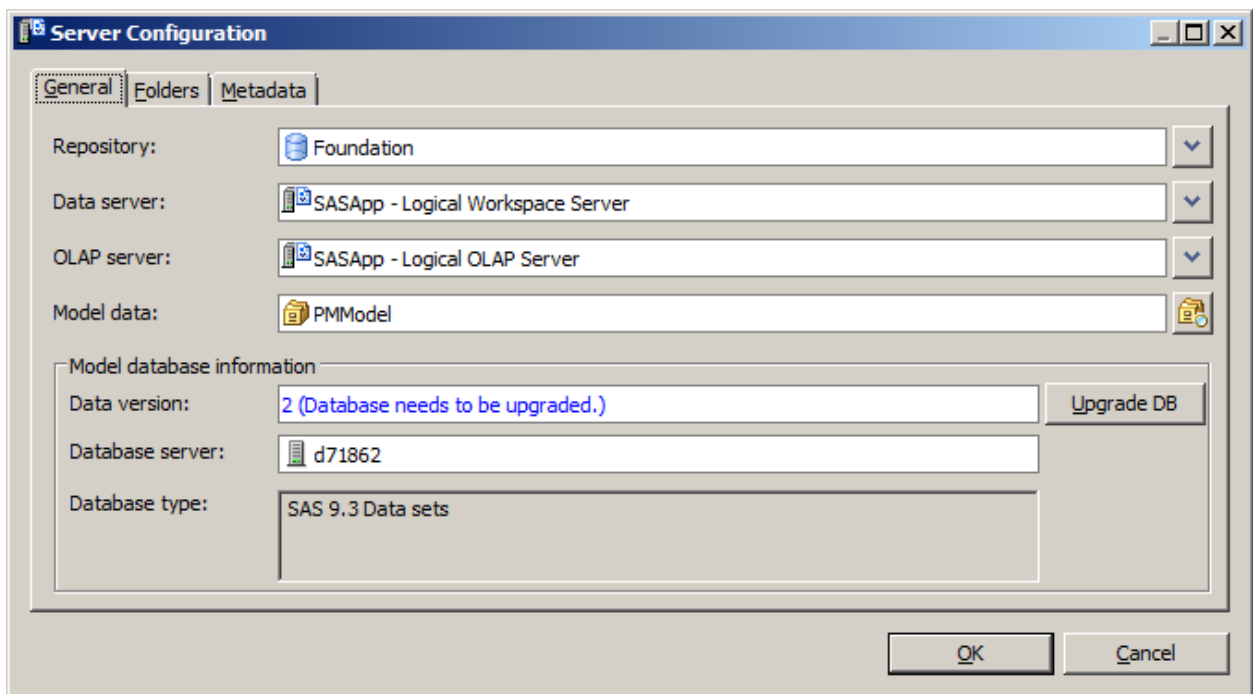
For UNIX Workspace Server, it will look like this:



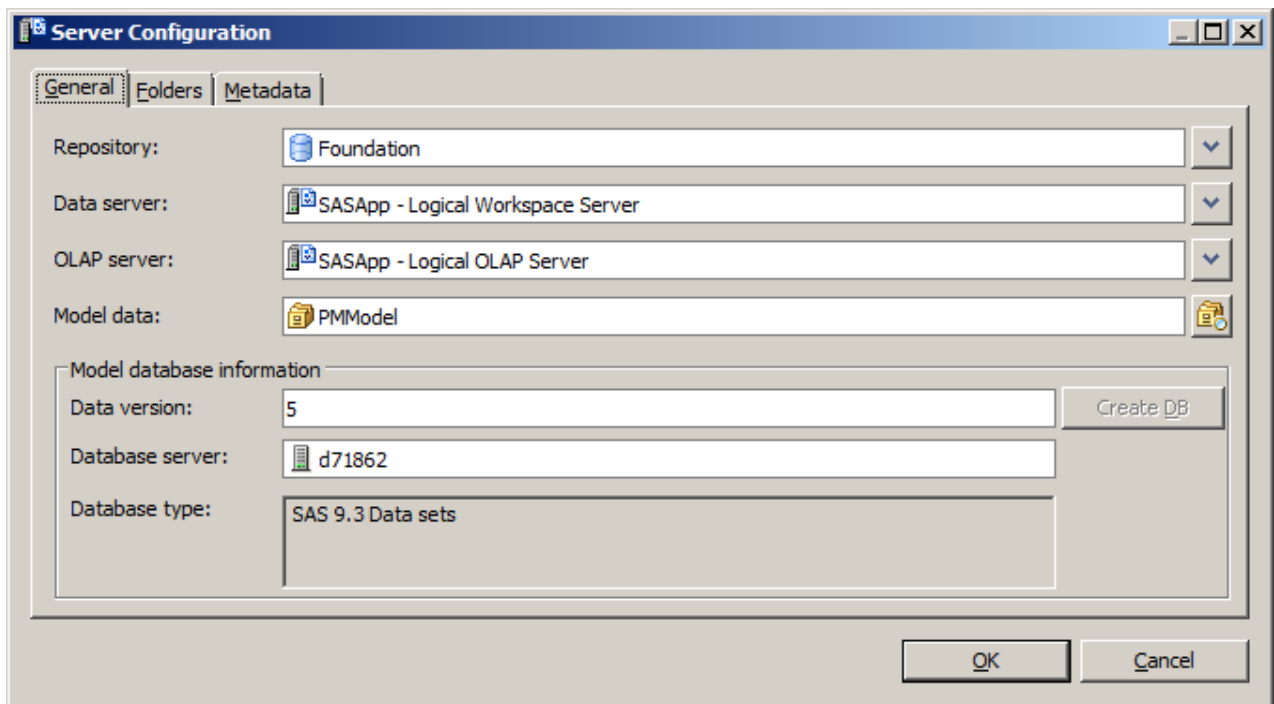
Select the **Metadata** tab and change the cube and information map tree to the location you used with SAS Profitability Management 1.3. Leave the check box checked. (This was how it worked in SAS Profitability Management 1.3.)



Go back to the **General** tab and set the appropriate OLAP server. Then click on Upgrade DB.



After you have upgraded the database the dialog will look like the one shown below.



Click **OK** to close this dialog.

## Setting Permissions on Metadata Folders

If you are migrating from SAS Profitability Management 1.3 to 2.21, you need to verify the permissions of the old Profitability Management directory on Workspace Server machine. The default location is below.

**Windows:** <Configuration Path>\Lev1\Data\SASProfitabilityManagement

**UNIX:** <Configuration Path>/Lev1/Data/SASProfitabilityManagement

You need to give the PM users group all authority except administer.

1. Open the SAS Management Console on Windows client with sasadm.
2. Select the **Folders** tab on the top.
3. Right click the mouse on **ProfitabilityManagement** folder and select **Properties**.
4. Select the **Authorization** tab.
5. Verify that the **PM user group** has all permissions except administer.
6. Click on **OK** to save the properties.

## Testing Your SAS Profitability Management Installation

Input data is needed to test SAS Profitability Management. SAS Profitability Management 2.21 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 2.21. 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 that contains datasets to use with the tutorial can also be found on the SAS Technical Support site at  
<http://support.sas.com/documentation/onlinedoc/pm/>

Please follow the “Getting Started with SAS Profitability Management 2.21” link at the above site.

## Test the SAS Profitability Management Windows Client

Open the SAS Profitability Management Client using sasdemo 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 on Windows

To test the SAS Profitability Web Reporting on Windows, you must start the SAS Remote Services and the web Server application. In the following example, replace <Configuration Menu> with the name of your SAS BI Menu –Lev1. An example is SASPMConfig-Lev1.

1. If the SAS Remote Services is not already running, start the SAS Remote Services (**Start→Programs→SAS→<Configuration Menu>→Config- Lev1→Remote Services - Start**) on the Web server.
2. If the Web application server is not started, start it. The web application servers as installed as services on Windows. To start them go to the services administrative tools.

**Start→Administrative Tools→Services** and scroll down till you see one of these.

JBoss is named **JBoss-SASServer1**.

WebLogic is named ORACLE Products NodeManager (C\_SAS\_Config\_Lev1).

WebSphere is named IBM WebSphere Application Server Vx.x - SASAppSrv01Node

If the services are not installed, you can start them with command files.

JBoss is started from:

```
<JBoss install path>\bin\SASServer1.bat
```

WebLogic is started from:

```
<Configuration Path>\Lev1\Web\SASDomain\bin\startWebLogic.cmd.
```

WebSphere is started from:

```
<WebSphere install path>\AppServer\bin\wasservice.exe  
"IBMWASxxService - SASAppSrv01Node"
```

3. Open the Web browser and type in the URL for the SAS Profitability Management Web Application. This is usually

For JBoss the starting URL is

```
http://<your server address >:8080/SASProfitabilityManagement/
```

For WebLogic the starting URL is

```
http://<your server address >:7001/SASProfitabilityManagement/
```

For WebSphere the starting URL is

```
http://<your server address >:9008/SASProfitabilityManagement/
```

## Test the SAS Profitability Web Management Reporting on UNIX

To test the SAS Profitability Web Application on UNIX, you must start the SAS Remote Services and the web Server application. Replace <Configuration Path> with the location of your SAS configuration directory.

1. If the SAS Remote Services is not already running, start the SAS Remote Services on the Web server.

```
/<Configuration Path>/Lev1/Web/Application/RemoteServices/StartRemoteServices.sh
```

2. Start the Web application server if it is not already running. For example,

JBoss is started from

```
/<JBoss install path>/bin/SASServer1.sh
```

WebLogic is started from

```
/<configuration path>/Lev1/Web/SASDomain/bin/startWebLogic.sh.
```

WebSphere is started from

```
<WebSphere install path>\AppServer\bin\wasservice.sh  
"IBMWASxxService - SASAppSrv01Node"
```

Open the Web browser and type in the URL for the SAS Profitability Management Web Application. This is usually

For JBoss the starting URL is

```
http://<your server address>:8080/SASProfitabilityManagement/
```

For WebLogic the starting URL is

```
http://<your server address>:7001/SASProfitabilityManagement/
```

For WebSphere the starting URL is

```
http://<your server address>:9008/SASProfitabilityManagement/
```

You must log into the SAS Profitability Management Web with user ID sasdemo.

## Running SAS Profitability Management Diagnostics

SAS Profitability Management 2.21 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 need to set up the display to the computer. An example of this is:

```
DISPLAY=<your_machine_absolute_address>:0.0  
export DISPLAY
```

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

The first dialog allows you to select the type of diagnostics to run. Please **note** 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, you should open the ProfitabilityMgmtDiag.ini file. It is located in your diagnostic executable folder as follows:

**Windows:** <SAS install path>\SASProfitabilityManagementUtility\2.21\diagnostic

**UNIX:** <SAS install path>/SASProfitabilityManagementUtility/2.21/diagnostic

Check for the following line:

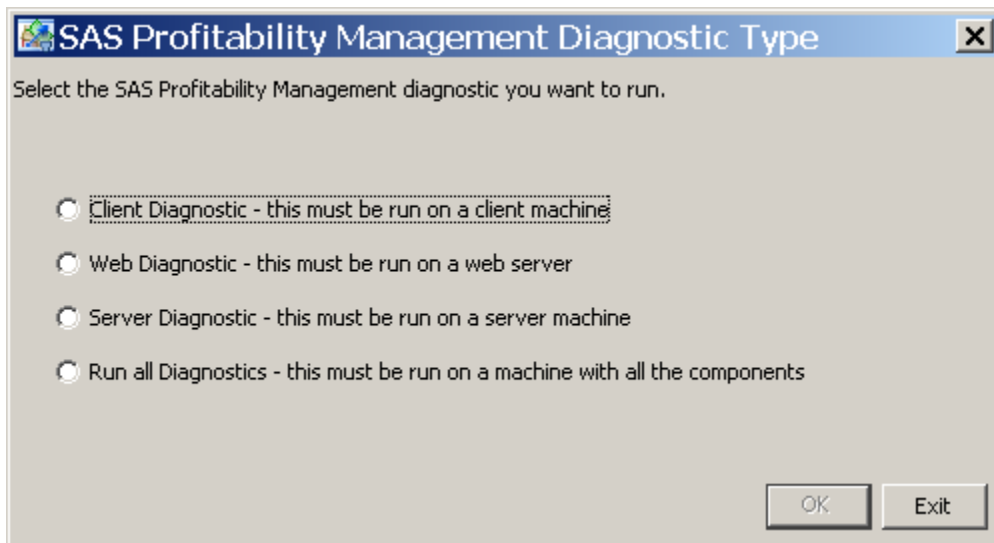
```
JavaArgs_4=-Dsas.app.class.path="<path to your junit.jar>"
```

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

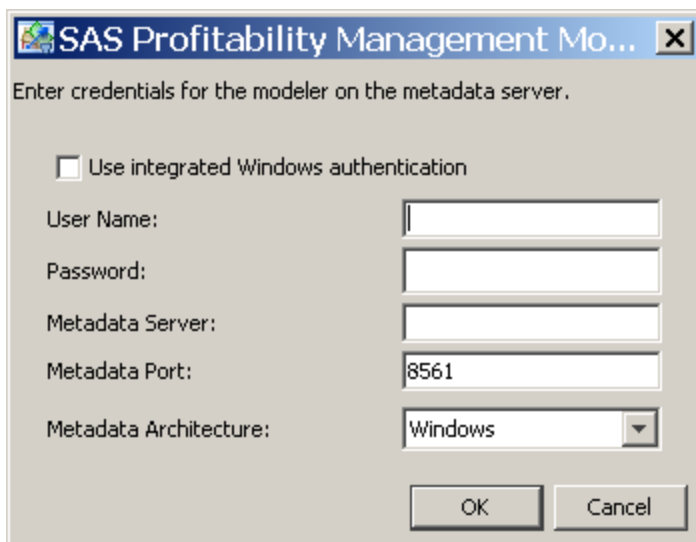
Update the following line to get a log:

```
applogloc=launcher.log
```

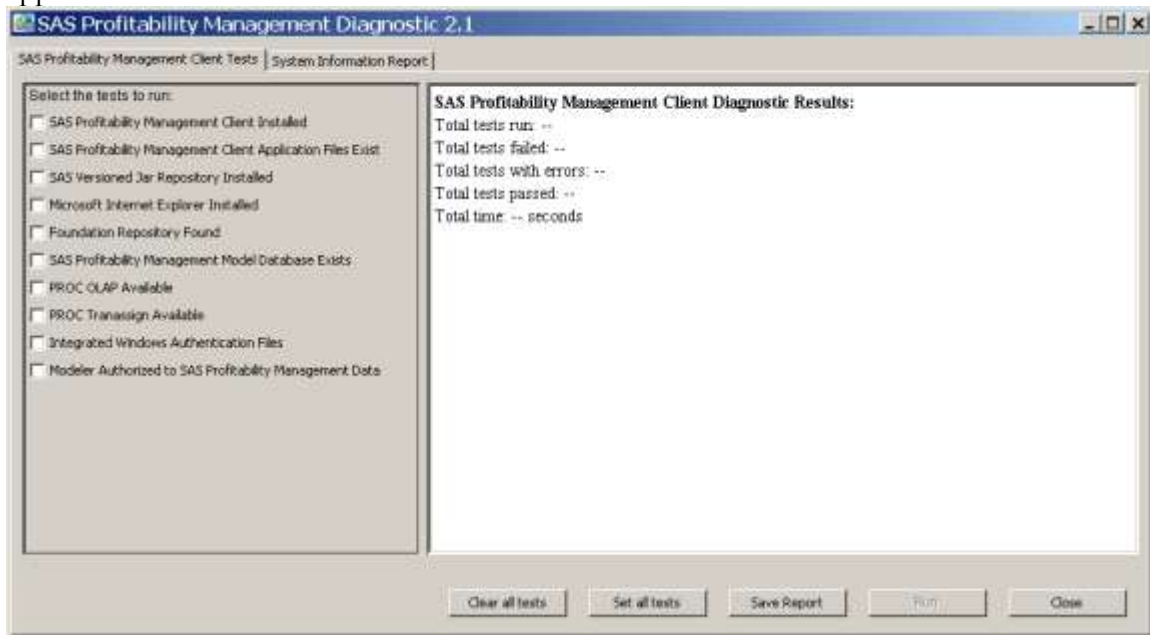
The following picture shows the first dialog of the diagnostic utility. You must pick the diagnostic you want to run depending upon what machine you are running the diagnostic on.



The diagnostics will prompt you for a modeler login and other details. 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, then you must fully qualify the name of the metadata server.

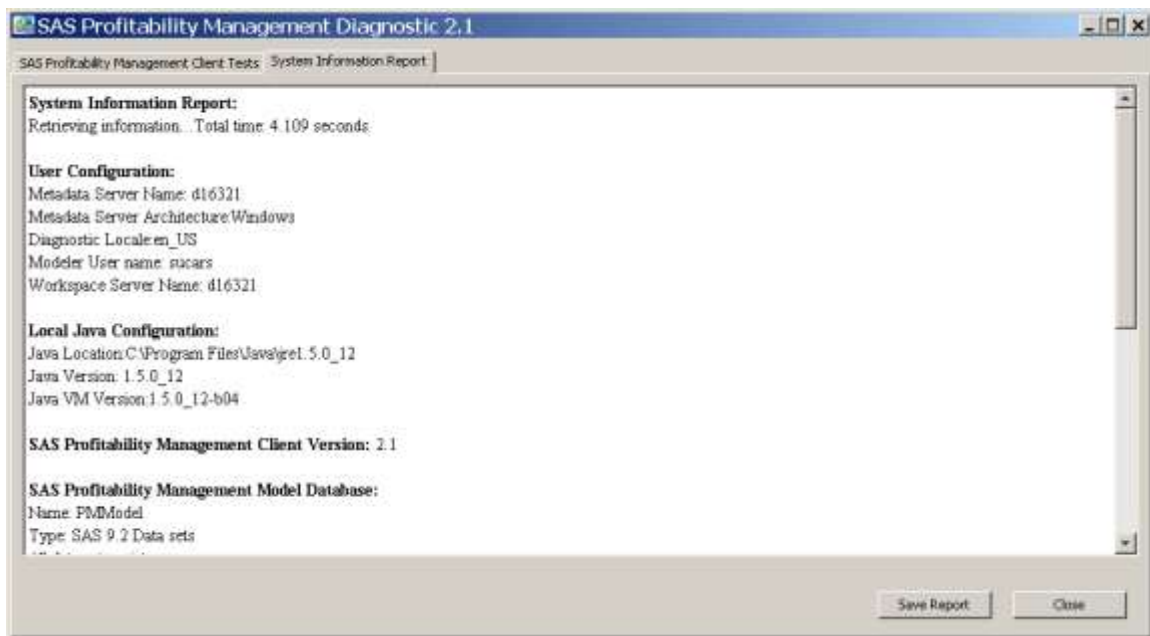


If you selected to test the client the following dialog will appear. The first tab seen below will appear. You can select to run one or more tests.



The log can be saved to the local machine. The file names are printed 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\2.21`. On UNIX, the default location for this log is `//SAS/SAS Profitability Management Diagnostic/2.21`.

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



If you have not created the database or the metadata server is not running then you will see errors about this.

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



## Chapter 6 – Post-Migration Guide

### ***Update the Code Templates***

If you have made changes to the Profitability Management 1.3 or 2.x templates then you will need to make the same changes to the Profitability Management 2.21 templates.

CreateXXXTemplate.sas, DeleteXXXTemplate.sas, and CalculateModelTemplate.sas need to be changed. The locations are described below:

#### **Windows:**

Old location: <SASHOME>\SAS\abmprofmvva\sasmisc

New Location <SASHOME>>SAS\SASFoundation\9.3\abmprofmvva\sasmisc

#### **UNIX:**

Old location: <SASHOME>/SAS/misc/abmprofmvva

New Location <SASHOME>SAS/SASFoundation/9.3/misc/abmprofmvva

### ***Copy Input Data Sets***

If you are migrating to a new server, you need to copy the input data sets. If they are SAS data sets you can use the SAS Procedures CPort and CImport. If they are in an RMDS, see the documentation with the RMDS to learn how to copy the database.

You will then need to register them with the SAS Metadata Console.

### ***Deleting Summary Report Cubes***

For SAS 9.3 all cubes created in 9.1.3 need to be regenerated. You can also use SAS Management Console 9.3 to delete the cubes and information maps. The Summary cubes are named <Model name>\_<Report name>. The information maps have the same name as the cubes.

The cubes and information maps can be found in SAS Metadata Console folder tab under /ProfitabilityManagement/Models/<Model Name>/Reports. Right click on the cubes or information map and select delete.

After you have deleted all the cubes and information maps for the model, delete the reports folder under each model.

### ***Delete Unneeded System Files***

For SAS 9.3, all cubes need to be regenerated and are now placed under the models \<model name>\Reports directory on the operating system of the workspace server. So after you have regenerated all the reports, you can delete the cubes folder in the SAS configuration directory.

#### **Windows:**

<SAS9.1.3\_CONFIGURATION>\Lev1\Data\SASProfitabilityManagement\cubes

#### **UNIX:**

<SAS9.1.3\_CONFIGURATION>/Lev1/Data/SASProfitabilityManagement/cubes

## Delete Unneeded Metadata

SAS Profitability Management 2.21 has created a new metadata structure that is recommended for new users. Current users should use their own structure; however, regenerated reports will not use the reports or temp folders in metadata.

The old information maps and the reports folders can be deleted by using the SAS Management Console 9.3. They can be found in the folders table under /ProfitabilityManagement/Models/<Model Name>/Reports.

Delete the old temp directory by using the SAS Management Console 9.3. It can be found in the folders table under /ProfitabilityManagement.

If you are using your old structure you can delete the new metadata folder structure in /Products/SAS Profitability Management.

## Chapter 7 – Optional Configuration Guide

For the following configuration, you need to log on to the SAS Management Console using the SAS Administrator User. For new installations of SAS Enterprise BI Server, the SAS Administrator User ID is sasadm@saspw, and an internal user. However for customers who are migrating their SAS Enterprise BI Server from 9.1.3 to 9.3, the SAS Administrator User ID is sasadm, an external 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 OS Group**

For each operating system user that will login to SAS Profitability Management, you need to 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 via **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.

### **Adding UNIX Users to the PM Users OS Group**

For each operating system user that will login to SAS Profitability Management, you need to add them to the UNIX operating system pmusers group. Use the appropriate system utilities to add a user with the following characteristics. You will need root permission to perform this item.

1. Add a user (AIX is *mkuser* and Solaris is *useradd*)
2. Set its password (*passwd* <NewUser>)
3. Set the expiration date to 99999 (AIX is *chuser -a* and Solaris is *usermod*)
4. Add members via the command *useradd -G* <GroupName> <UserName>.

## 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 via **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.

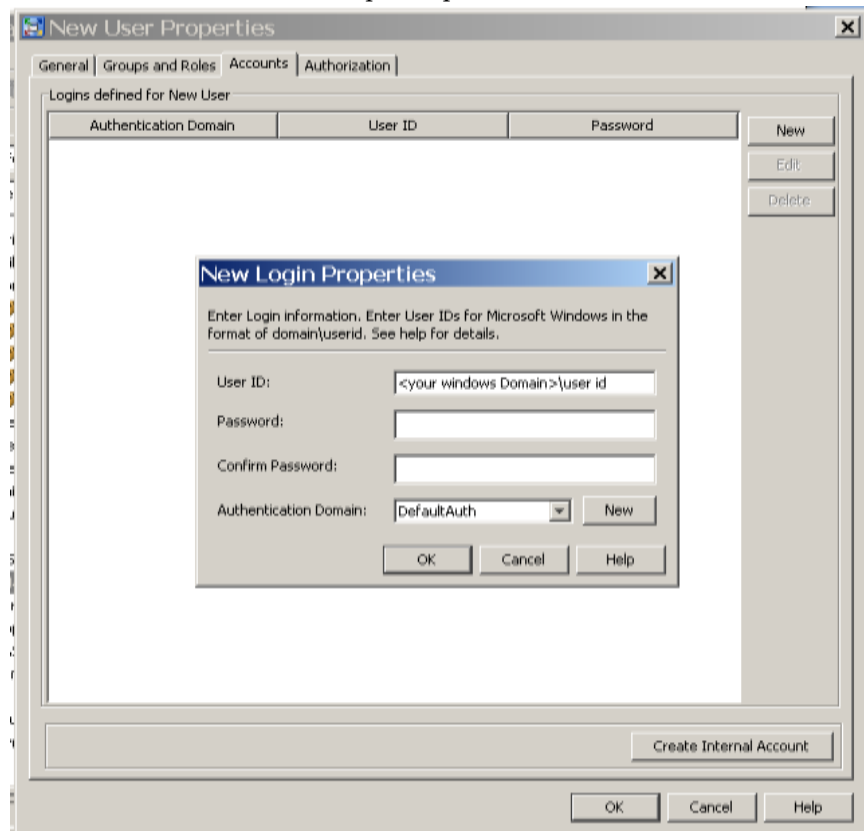
1. Open the SAS Management Console using <SAS Administrator User>.
2. Click on the **Plug-ins** tab at the top.
3. Select the **Foundation** repository.
4. Expand **Environment Management** branch.
5. Select **User Manager**.
6. Right-click **User Manager** and select **New > User**.
7. Name: <any name>
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 operation system user ID. For Windows, it should be prefixed by the domain. For UNIX no prefix is needed. If the metadata server and other servers, OLAP and Workspace, are of different architecture, then you will need two accounts for the user.
13. Select the appropriate authentication domain. **DefaultAuth** works normally. If you have a mixed architecture server environment then choose the authentication domain of the metadata server.
14. Click **OK** on **New Logins Properties**.
15. Click **OK** on **New User Properties**.
16. Repeat steps 5 thru 15 to add additional users.
17. Close the SAS Management Console.

## Integrated Windows Authentication (IWA)

For release 2.21, 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 Profitability Management.

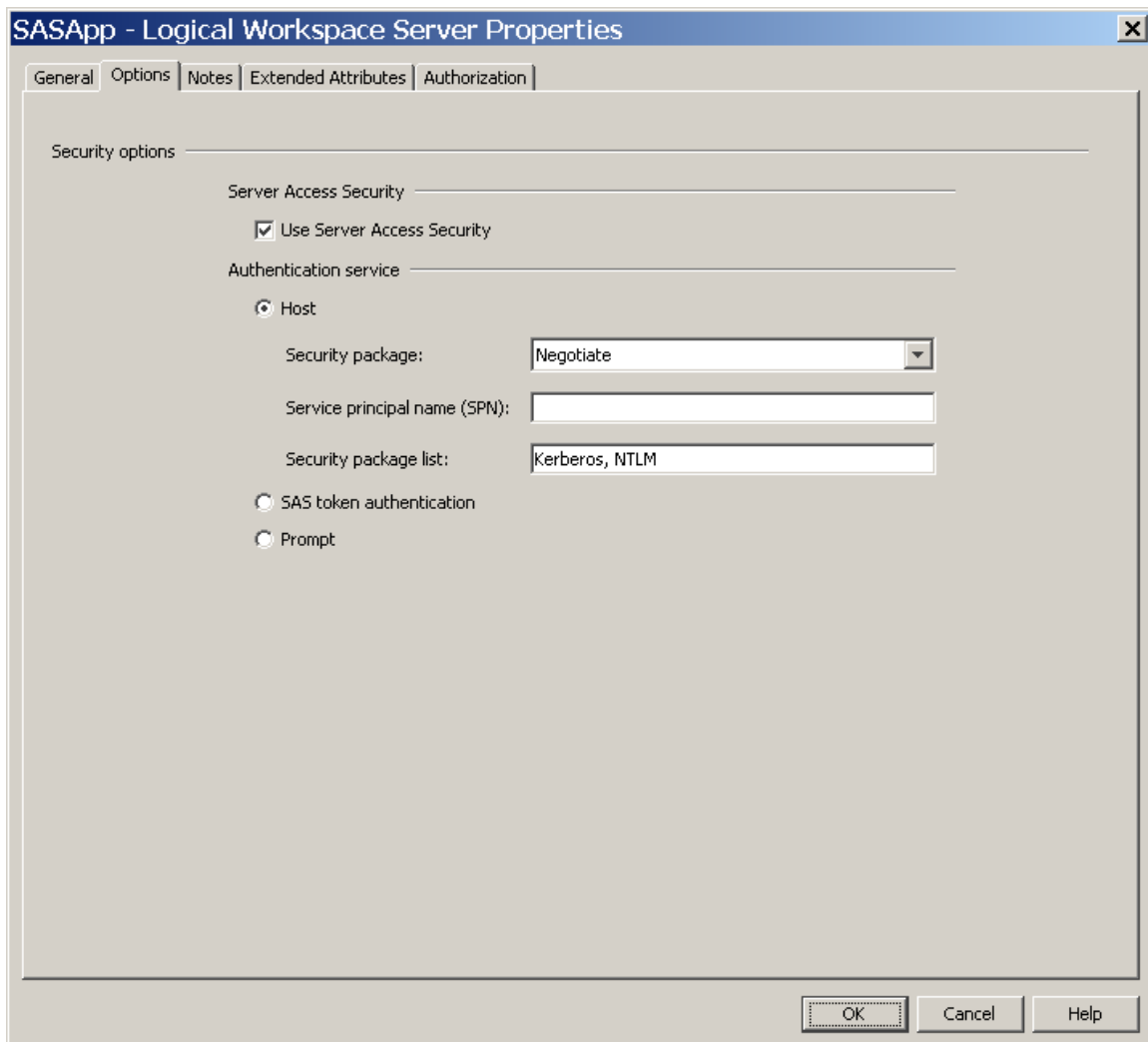
There are three requirements for Windows authentication:

1. You must be using a network user ID.
2. You must create a User in SAS Management Console with account domain\user ID. See the picture below. You do not need to put in passwords.



3. On the Logical Workspace Server, you must be set to **Negotiate**. This can be done during installation but if it has not been done, then open the SAS Management Console and change the Security package to Negotiate.

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.

You must have checked the box for "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 Profitability Management, you must open the SAS Management Console and set the metadata folder permission. The models are stored in metadata folders under /Products/SAS Profitability Management/Models for new users. Migrated users can find their models under /SharedData.

The Models folder should allow all PM Users all authority but administer.

If you want to restrict Model1 from metadata user A, use the following procedure:

1. Open the 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. You have to open the SAS Profitability Management and Models branches.

4. Right-click on the folder named **Model1** and select **Properties**.
5. Select the **Authorization** tab and add the new user.
6. You should 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 Profitability Management Client a user can see the model s/he cannot edit in the Organize Models dialog but cannot do anything with them.

## Procedure Options

The code templates that Profitability Management 2.21 uses to calculate and generate cubes now have optional parameters 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\9.3\abmprofmv\asmsisc`

**UNIX:** `/<SAS install path>/SASFoundation/9.3/misc/abmprofmv`

If you change them, you need to 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. An example if adding the Debug option into the Proc InfoMap statement is:

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

## Logging

SAS Profitability Management 2.21 provides logging for the client and the web applications.

### Client Logging

The client logging is controlled by the `log4j.properties` file in the `SASProfitabilityManagementClient/2.21` directory. It is initially set to warn. The log will go into the current directory and be named `sas.solutions.profitability.client.log`.

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

```
log4j.appende.r.file.File=c:\\<directory>\\sas.solutions.profitabilit
y.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 SASProfitability2.2.log reside in the configuration directory under Web\\Logs.

**Windows:** <configuration path>\\Lev1\\ Web\\Logs

**UNIX:** /<configuration path>/Lev1/ Web/Logs

## 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 Profitability Management users will be accessing the same model at the same time, you should configure the PMModel database to run on a SAS Share server.

Your plan file should have included the SAS/Share server. After installation/configuration is done, 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, you should open the SAS Management Console on a Window’s client.

1. If you are not already logged onto the SAS Management Console, log on to the 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 **PMModel** and select **Properties**.
7. Select the **Assign** pane and changed **Selected servers** from **SASApp** to **Share Server - <host name>**
8. Select the **Options** pane and select **Advanced Options...**
9. Make sure check box Library is **Pre-Assigned** is checked
10. Click **OK**.

Now you must 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, you should open the SAS Management Console on a Window's client.

1. If you are not already logged onto the SAS Management Console, 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" as **Name**
9. Select a SAS folder location for the new library (make sure Profitability Mgmt 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 field **SAS/SHARE Server**
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. In the **General** pane, browse the **Model data** library to use the SAS/SHARE client library (i.e. PMModelClient).
4. Click **OK**.

The screenshot shows the 'Server Configuration' dialog box with the 'General' tab selected. The dialog has three tabs: 'General', 'Folders', and 'Metadata'. The 'General' tab contains the following fields and options:

- Repository:** A dropdown menu showing 'Foundation'.
- Data server:** A dropdown menu showing 'SASApp - Logical Workspace Server'.
- OLAP server:** A dropdown menu showing 'SASApp - Logical OLAP Server'.
- Model data:** A dropdown menu showing 'PMModelClient'.
- Model database information:** A section containing:
  - Data version:** A text field with the value '5'. To its right is a 'Create DB' button.
  - Database server:** A text field with the value 'd71862'.
  - Database type:** A text field with the value 'SAS 9.3 Data sets'.

At the bottom right of the dialog are 'OK' and 'Cancel' buttons.



## **support.sas.com**

SAS is the world leader in providing software and services that enable customers to transform data from all areas of their business into intelligence. SAS solutions help organizations make better, more informed decisions and maximize customer, supplier, and organizational relationships. For more than 30 years, SAS has been giving customers around the world The Power to Know®. Visit us at **www.sas.com**.