

SAS[®] Profitability Management 2.1

Installation, Migration and Configuration Guide



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Table of Contents

Chapter 1 – Using These Instructions	1
Technical Support.....	1
Chapter 2 – Pre-Migration Guide	3
Cleaning Up the Existing Profitability Management Data Model	3
Deleting Detail Report Cubes	3
Deleting Unused Summary Report Cubes	3
Backing up the System	3
Running SAS Migration Utility	4
Chapter 3 – Pre-Installation Guide	7
SAS Software	7
Java 2 JDK for Servers	7
Windows	7
UNIX	8
Java 2 Runtime Environments for Clients	8
Web Application Servers	8
JBoss Application Server.....	9
BEA WebLogic Server.....	9
IBM WebSphere Application Server	9
Post-Installation Steps for JBoss, WebLogic, and WebSphere Application Servers.....	9
JUnit for SAS Profitability Management Diagnostic	9
User ID for Installations	10
Operating System Help	10
Chapter 4 – Installation Guide	11
Installation Set-up	11
Creating User Accounts	11
Windows	11
UNIX	12
Creating and Updating Groups	12
Windows	12
UNIX	13
Granting Permissions on Windows.....	13
Installing on UNIX	13
Multi-Server Installs	13
Client Install.....	13
Single Server Installation	14
Getting Started	14
Third Party Installation.....	14
Java JDK.....	14
JUnit.....	14
Web Server Applications.....	15
Install SAS Server Software	15
Multiple Server Installation	18
Incremental Server Install	18
Install Transaction Assignment Server	19
Install the Data Tier and Utility	20
Install the Mid-Tier and Utility	21

Windows Client Installation	22
Getting Started	23
Third Party Installation.....	23
Java Runtime	23
JUnit.....	23
Install SAS Client Software	23
Chapter 5 – Post-Installation Guide	25
Updating SASUsers Group Permissions	25
Validating SAS Workspace Server and OLAP Server	25
Defining Permissions for PM Folders and Files	26
Setting Up Metadata Users for Mixed Architecture Environments	27
Creating the SAS Profitability Management Database	28
Upgrading the SAS Profitability Management Database	33
Setting Permissions on Metadata Folders	37
Testing Your SAS Profitability Management Installation	37
Using the SAS Profitability Management Tutorial	38
Installation of Tutorial.....	38
Converting Tutorial Data to Your Operating System	38
Setting Up Input and Output Libraries and Metadata Folders	39
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
Chapter 6 – Post-Migration Guide	45
Update the Code Templates.....	45
Copy Input Data Sets	45
Deleting Summary Report Cubes	45
Delete Unneeded System Files	45
Delete Unneeded Metadata	46
Chapter 7 – Optional Configuration Guide	47
Adding Additional PM Users.....	47
Adding Window Users to the PM Users OS Group.....	47
Adding UNIX Users to the PM Users OS Group	47
Granting Permissions on Windows.....	47
Create Additional SAS Profitability Management Metadata Users.....	48
Relational Database Management Support (Optional)	49
Integrated Windows Authentication (IWA)	49
Model Security.....	50
Procedure Options.....	51
Logging	51
Client Logging.....	52
Web Logging	52
Using SAS/SHARE with SAS Data Sets.....	52
Adding a SAS/SHARE Server	52
Defining the Library as SAS/SHARE library	53

Appendix A – Using RDMS for SAS Profitability Management Data	54
Overview of the Tasks	54
Microsoft SQL Server	55
Creating Environmental Variable.....	55
Integrated Windows Authentication (IWA).....	55
Registering the Microsoft SQL Server 2005.....	55
Granting Access to PM Users.....	56
Create a SAS Management Data Library	56
Enter Extended Attributes for the Database Library	57
MySQL Server	58
Updating Automation File	58
Registering the MySQL Server	58
Granting Access to PM Users	59
Create a SAS Management Data Library	60
Enter Extended Attributes for the Database Library	60
Oracle 11g Server.....	61
Creating Environmental Variable.....	61
Registering the Oracle Server.....	62
Granting Access to PM Users.....	62
Create a SAS Management Data Library	63
Enter Extended Attributes for the Database Library	63

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 2.1 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/installcenter/en/ikabmprofofrsr/62593/PDF/default/sreq.pdf>.

Chapter 2, the Pre-Migration Guide, contains steps that need to be done if you are migrating from SAS Profitability Management 1.3 to 2.1. 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 2.1.

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.

Late breaking news will be found in the Release Notes for SAS Profitability Management 2.1 on the consultants' Web page. Ask your consultant for any new information.

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/index.html>.

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 D drive, then replace `<SAS install path>` with

`D:\Program Files\SAS.`

`<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 1.3 to 2.1, first refer to the *SAS Intelligence Platform 9.1.3 to 9.2 Migration Guide* on the Install Center at <http://support.sas.com/documentation/cdl/en/bimig/61696/PDF/default/bimig.pdf>

Migration should only be done on the Mid-Tier (Web server) and the Data-Tier (Workspace Server and Proc Transassign). There is no migration 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 9.1 and expand Foundation and Cubes. The Detail cubes are named PM_XXXXXXXXXXXXXXXXX where XXXXXXXX is a pm user id and nnnnnnnn is a sequence number. Right click each of the Detail cubes and select delete.

To delete the information maps, Open SAS Management Console 9.1 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

For SAS 9.2 all cubes need to be regenerated. If there are reports you are no longer using, delete the reports in SAS Profitability Management Client 1.3. You can delete these reports by going to the Reports workspace in SAS Profitability Management Client 1.3, select each report and click on Remove.

Backing up the System

Backing up the SAS 9.1.3 System is explained in the *SAS Intelligence Platform 9.1.3 to 9.2 Migration Guide*. Also you must back up the PM Model data sets. Since these data sets contained **indexes**, you must use the SAS Procedure CPORT to copy them and the SAS Procedure CIMPORT to read 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 pm Model 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, SMU, can be found in the SAS Software Depot\ utilities\SMU directory. You should download your SAS 9.2 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 SAS Management Console 9.1.3 (SMC) to determine the type of Distributed **Authoring and Versioning (DVA)** you have installed. Expand the **Server Manager** and pick the DAV server. Open its properties and see on the options page who the vendor is.

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 the 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 DVA Server is running before you start the SMU. 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 -s -a -properties <fully qualified smu properties file name>`

UNIX: `smu.sh -- -properties <fully qualified smu properties file name>`

Chapter 3 – Pre-Installation Guide

SAS Profitability Management requires that the JUnit program be installed on all tiers and the Java 2 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://www.sas.com/apps/demosdownloads/esdclient_PROD_sysdep.jsp?packageID=000388

For detailed instructions on the SAS Software Depot, please refer to the quick start document at <http://support.sas.com/documentation/installcenter/92/quickstart/9.2/basic/quickstart.pdf>

For detail instructions of installing the software from Basic DVDs, please refer to the quick start document at http://support.sas.com/documentation/installcenter/92/quickstart/9.2/basic/quickstart_media.pdf

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/documentation/installcenter/92/deploywiz/9.2/user.pdf>

Java 2 JDK for Servers

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 2.1 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/installcenter/en/ikabmprofofrsr/62593/PDF/default/sreq.pdf>

Java 2 JDK can be found at the Sun archive download Web site or you may follow the link from the SAS Technical Support Web site:

<http://support.sas.com/resources/thirdpartysupport/v92/jdks.html>

Windows

You should install Java Platform Standard Edition 5.0 Development Kit (JDK) and make sure that it is in your path.

For example, on a Windows 2003 Server, follow these steps if you installed at C:\JDK 1.5.0_15:

1. Select **Start**→**Control Panel**→**System**. Open the **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:\jdk1.5.0_15\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 "1.5.0_15"`.

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 1.5.0_12 in the usr directory, issue the following commands:

```
PATH=$PATH:/usr/jdk1.5.0_12/bin
export PATH
```

Verify that the changes are correct by executing the command `java -version` at the command line. The results should be the following:

Operating System	Minimum Java JDK
Windows 32 bit	1.5.0_15
HP-UX Itanium	1.5.0.11
AIX	5.0.0.130 SR5a
Solaris on Sparc	1.5.0.12

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) 1.5.0_15 or newer.

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

<http://support.sas.com/resources/thirdpartysupport/v92/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 2.1 Systems Requirements* for the minimum level of the web application server for the operating system of your Web server.

<http://support.sas.com/documentation/installcenter/en/ikabmprofofrsr/62593/PDF/default/sreq.pdf>

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	9008

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. You can download JBoss Application Server 4.2.0. GA from the JBoss download site, <http://www.jboss.org/jbossas/downloads>.

Select **4.2.0.GA** and then download jBoss_4.2.0GA.zip. This zip file is a platform independent zip file and can be unzipped on Windows machines via WinZip and on UNIZ via gunzip.

BEA WebLogic Server

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

BEA recommends that you do not exceed a maximum of 12 characters when naming your BEA Home directory. If the name of this directory has more than 12 characters, the CLASSPATH may not be resolved properly.

IBM WebSphere Application Server

Install IBM WebSphere Application Server on the machine hosting the SAS Profitability Management Web Application. You can purchase this server from IBM.

You need to install the correct fix pack for the IBM WebSphere on your web server. The number is currently Fixpack-6.1.0.17.

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

Please read the post installation steps for your web application server at <http://support.sas.com/resources/thirdpartysupport/v92/appservers/precnfig.html>

JUnit for SAS Profitability Management Diagnostic

SAS Profitability Management Diagnostic 2.1 needs access to JUnit 3.8.1 software to run. It can be installed from the JUnit organization web site, <http://junit.org>. Select the **download JUnit** on the top and then select **3.8.1**. 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 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.

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. SAS installation will prompt you for the root password. However, some third-party products require that you be logged in as root when you install them.

Operating System Help

Help for many of the Windows operating systems steps can be found at **Start→Help and Support**. Enter phrases like “file permissions” or “create users” to find the specific steps for your operating system.

For UNIX, use the man command. For more information on this command, type `man man`.

Chapter 4 – Installation Guide

This section of the documentation will guide you through the installation of SAS Profitability Management 2.1. Please follow the instructions carefully.

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 9.2 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 9.2 Intelligence Platform: Installation and Configuration Guide* on <http://support.sas.com/documentation/cdl/en/biig/60946/PDF/default/biig.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 accounts available. One account, *sassrv*, is needed by the installation process and the other user account will be the first client user, *sasdemo*. 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 2003 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 **sasdemo**)
5. Fill in the descriptions (**SAS Server User** or **SAS Demo User**) and password.
6. Deselect **User must change password at next logon**.
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.

- Set the initial password
- Do not select password aging and expiration options
- 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 sasdemo is created locally on OMRServer, then the User Id Prefix for sasdemo is OMRServer. Alternatively, if sasdemo 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*	sasdemo	DemoDemo1			
SAS Server	sassrv	AdminAdmin1			

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

Creating and Updating Groups

Windows

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.

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

The steps are:

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 the SAS Server user, *sassrv*. We recommend that you name this group *sas*.

Create a new group named *pmusers*. Add *sasdemo* to the 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
```

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.

Client Install

Whether you install SAS Profitability Management on a single server or multiple servers, you must install at least one SAS Profitability Management Client. This client will be used to populate the PM Model database as described in “Configure the SAS Profitability Management Database”. If you are migrating from SAS Profitability Management 1.3 to 2.1 then upgrade the PM Model database as described in “Upgrading the SAS Profitability Management Database”.

Installing the client is described following the Server installs.

Do not manually put anything in the PM Model database. Input data, output data, and the PM Model database should be in separate directories.

Single Server Installation

This section provides instructions to install SAS Profitability Management on a single physical server along with SAS 9.2 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 9.2 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 your want to install on.
3. Place your plan files in a known location, such as

Windows: `<SAS install path>\Plan\plan.xml`

UNIX: `<SAS install path>/Plan/plan.xml`

Third Party Installation

Java JDK

Check the correct version for your operating system in the *SAS Profitability Management 2.1 Systems Requirements*. The document is at

<http://support.sas.com/documentation/installcenter/en/ikabmprofofrsr/62593/PDF/default/sreq.pdf>

1. Ensure that the Java Standard 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 1.5.0_12 in the usr directory, issue the following commands:

```
PATH=$PATH:/usr/jdk1.5.0_12/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 2.1 Systems Requirements*. The document is at

<http://support.sas.com/documentation/installcenter/en/ikabmprofofrsr/62593/PDF/default/sreq.pdf>

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 2.1 Systems Requirements*. The document is at <http://support.sas.com/documentation/installcenter/en/ikabmprofofrsr/62593/PDF/default/sreq.pdf>

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

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

Install SAS Server Software

For SAS Profitability Management 2.1, some localization will be available at installation time. You can select any available language to view the SAS Deployment Wizard other than English, but the following instructions are available only in English.

1. Start the SAS Deployment Wizard.
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
5. Select a **Planned Deployment** and make sure that **Install SAS Software** and **Configure SAS Software** options are both checked. Click **Next**.
6. If this is the first SAS program you have installed, you will be prompted to specify a directory to install the SAS software and 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 install path>\Plan\
UNIX: /<SAS install path>/Plan/
8. Select the Server and Middle Tier machine type and verify that the correct files are being installed. You should have **SAS Foundation, SAS OLAP Server, SAS Web OLAP Viewer for Java, and SAS Profitability Management**. Click **Next**.
9. The SAS Installation Data file is contained within the Software Depot. Select the SID that correlates to the order you are installing.
10. 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. Review the **Required Software** and click **Next**.
13. Specify the locations for the required software and click **Next** on each required software location dialog
14. Select **Typical** on the Select Configuration Prompting Level and click **Next**.

15. If you are not migrating from SAS Profitability Management 1.3, click **Next** on the Specify Configuration Information dialog. If you are migrating, enter the same directory you did for 1.3
16. Select the products that you want to configure and click **Next**.
17. Review the local Machine Name and click **Next**.
18. If you are not migrating from 1.3 leave the **Perform migration** checkbox unchecked on the Migration Information dialog.

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. Then 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

Dialog Title	Action to perform
Windows Options (Windows only)	Check 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 in windows machines and the data model should be in SAS Datasets
SAS Metadata Server	Review the Metadata Server and port and press Next
Deployment Accounts: Type of Accounts	Select Use SAS internal accounts when appropriate
External Account Installer	Enter your operating system password
SAS Internal Account: Unrestricted Administrator	Enter password that you want to use for the sasadmin unrestricted user
SAS Internal Account: Trusted User	Enter password that you want to use for sastrust
Anonymous Web Access	Unchecked the Enable Anonymous Web Access
External Account: SAS Spawner Server Account	On Windows, enter the domain\user ID and operation system password for user sassrv. On UNIX you enter the user ID and password
Deployment Accounts: First User	Check Set up a first User Identity – 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.
E-Mail Server	Specify the email server host name and the email addresses
SAS Object Spawner	Click Next
SAS Object Spammer: Port Bank	Click Next

SAS Application Server: Server Context	Select SASApp and click Next
SAS Workspace Server	Click Next
Metadata Utility Workspace Server	Click Next
SAS Pooled Workspace Server	Click Next
SAS Stored Process Server	Click Next
Stored Process Server: Multibridge Connection	Click Next
SAS OLAP Server (if you are installing it)	Click Next
Metadata Utility SAS/Connect Spawner	Click Next
SAS/Share Server	Click Next
SAS Table Server	Click Next
Metadata Utility SAS Data Step Batch Server	Click Next
SAS Deployment Tester Server	Select the JUnit jar file that was installed as a prerequisite
Web Application Server: Automatic Configuration	Check Automatically Configure your Web Application Server
Web Application Server: Managed Server	Click Next
Web Application Server: Automatic Deployment	Check Automatically Deploy Web Applications
Shared Themes for SAS Web Applications	Click Next
IP Multicast	Click Next
SAS Remote Services Application	Click Next
Event Broker Ports	Click Next
SAS Web Report Studio: Scheduling	Uncheck the box if you are not using SAS Web Report Studio
SAS BI Web Services for Java: New Web Services	Select Container
SAS Content Server: Repository Directory	Click Next
SAS Information Delivery Portal: Samples	Click Next

20. **View Install Alert Notes** and **close** the page.
21. Click **Start** to perform the deployment.
22. Review the manual configuration steps by clicking on the **URL** provided.
23. Perform all the **Validation** steps.
24. 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
25. After the **Validation** steps are done, **close** the page
26. Click **Finish** to close the SAS Deployment Wizard.
27. **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 9.2 and SAS Metadata Server 9.2
Workspace, OLAP and Transaction Assign Server	Base SAS 9.2 and SAS OLAP Server 9.2 and SAS Workspace Server 9.2 SAS/ACCESS if you access any RDMS
Web Server or Middle Tier	SAS Foundation Services 2.1 SAS Web Infrastructure Platform 9.2 SAS Web OLAP Viewer for Java 4.2

You can follow the steps for the single server install for each server machine but will not have as many options with each server of a multiple server installation as you did for a single server machine.

Incremental Server Install

If you have already installed SAS 9.2 Enterprise Intelligence Platform on your servers, you can do an incremental install of SAS Profitability Management 2.1 on your existing application server and Web server. 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 such as Workspace or OLAP Server, then the web tier and finally the client. You will need a plan file that has three machines defined even if you are installing all on one 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 Foundation
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

Install Transaction Assignment Server

You should reinstall SAS Foundation services to install the Transaction Assignment Server on the Workspace server machine. For SAS Profitability Management 2.1, some localization will be available at installation time. You can select a language to view the SAS Deployment Wizard other than English, but the following instructions are available only in English.

1. Start the SAS Deployment Wizard.
2. Select **English** or some other language to view the SAS Deployment Wizard.
3. Select the **Install SAS Software** option. Click **Next**.
4. Select the appropriate order number and click **Next**.
5. Select a **Planned Deployment** and make sure that **Install SAS Software** and **Configure SAS Software** options are both checked. Click **Next**.
6. Choose the **Specify the full path to a customized deployment plan...** option. Enter the location of your plan file, such as
 - Windows:** <SAS install path>\Plan\
UNIX: /<SAS install path>/Plan/
6. Select the Server type. Verify that **SAS Foundation** is included Click **Next**.
7. Select **Clear All** products and select only **SAS Foundation**. Click **Next**.
7. 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**.
8. Select the **languages** that you would like to install and click **Next**.
9. Review the **Required Software** and click **Next**.
10. Specify the locations for the required software and press **Next** on each required software location dialog
11. Select **Typical** on the Select Configuration Prompting Level and click **Next**.
12. Browse to the location of the existing configuration directory and Click **Next**.

13. Select **Clear All** products and select only **SAS Transaction Assignment Server**. Click **Next**.
14. Review the local Machine Name and click **Next**.
15. Leave the **Perform migration** unchecked and click **Next**.
16. **View Install Alert Notes** and **close** the page.
17. Click **Start** to perform the installation and configuration.
18. When deployment is complete, click **Next**.
19. Review the validation steps by clicking on the **URL** provided.
20. After the validation steps, **close** the page.
21. Click **Finish** to close the SAS Deployment Wizard.

Install the Data Tier and Utility

On the 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** on your operating system.
2. Start the SAS Deployment Wizard.
3. Select **English** or some other language to view the SAS Deployment Wizard.
4. Select the **Install SAS Software** option. Click **Next**.
5. Select the appropriate order number 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**.
7. Choose the **Specify the full path to a customized deployment plan...** option. Enter the location of your plan file, such as
 - Windows:** `<SAS install path>\Plan\`
 - UNIX:** `/<SAS install path>/Plan/`
8. Select **Server** as the type of Machine you want to install. Verify that **SAS Profitability Management Server** is included. Click **Next**.
9. **Clear All** selected products and select **SAS Profitability Management Data Tier** and **SAS Profitability Management Utility**. Click **Next**.
8. 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**.
9. Select the **languages** that you would like to install and click **Next**.
10. Review the **Required Software** and click **Next**.
11. Specify the locations for the required software and press **Next** on each required software location dialog
12. Select **Typical** on the Select Configuration Prompting Level and click **Next**.
13. Browse to the location of the existing configuration directory and Click **Next**.

14. Click **Yes** on the message that the configuration directory already exists.
15. **Clear All** selected products and select **SAS Profitability Management Data Tier and . SAS Profitability Management Utility**. Click **Next**.
16. Review the local Machine Name and click **Next**.
17. If you are not migrating from SAS Profitability Management 1.3 then leave the **Perform migration** unchecked. If you are migrating then check **Perform migration**. Click **Next**.
18. Supply the metadata server host name and port. Click **Next**.
19. Select **Use SAS internal accounts when appropriate** and click **Next**.
20. Enter the unrestricted **user password** and click on **Next**.
21. Select the **SASApp** as the SAS Application Server Context and click **Next**.
22. **Browse** to the location of the junit.jar and click on **Next**.
23. Click **Start** to perform the installation and configuration.
24. When deployment is complete, click **Next**.
25. Review the validation steps by clicking on the **URL** provided.
26. After the validation steps, **close** the page.
27. Click **Finish** to close the SAS Deployment Wizard.
28. **Restart** the machine.

Install the Mid-Tier and Utility

On the web server machine you should install the SAS Profitability Management Middle Tier and the SAS Profitability Management Utility. Make sure the SAS Metadata server and Object Spawner are started.

Also 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 on your operating system.
2. Start the SAS Deployment Wizard.
3. Select **English** or some other language to view the SAS Deployment Wizard.
4. Select the **Install SAS Software** option. Click **Next**.
5. Select the appropriate order number and click **Next**.
6. Select a **Planned Deployment** and make sure the **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 install path>\Plan\

UNIX: /<SAS install path>/Plan/

10. Select **Middle Tier** machine. Verify that **SAS Profitability Management Mid-Tier**, **SAS Profitability Client Help and Documentation** and **SAS Profitability Management Utility** are included. Click **Next**.
11. **Clear All** selected products and select **SAS Profitability Management Mid-Tier**, **SAS Profitability Client Help and Documentation** and **SAS Profitability Management Utility**. Click **Next**.
8. 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**.
9. Review the **Required Software** and click **Next**.
10. Specify the locations for the required software and press **Next** on each required software location dialog
11. Select **Typical** on the Select Configuration Prompting Level and click **Next**.
12. **Browse** to the location of the existing configuration directory and Click **Next**.
13. Click **Yes** on the message that the configuration directory already exists.
14. **Clear All** selected products and select **SAS Profitability Management Mid-Tier** and **SAS Profitability Management Utility**. Click **Next**.
15. Review the local Machine Name and port and click **Next**.
16. Leave the **Perform migration** unchecked and click **Next**.
17. Supply the metadata server host name and port. Click **Next**.
18. Enter the unrestricted **user password** and click **Next**.
19. Select **SASApp** as the SAS Application Server Context and click **Next**.
20. **Browse** to the location of the junit.jar and click **Next**.
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 machines.

Getting Started

1. Get access to your SAS Software Depot.
2. Place your plan files in a known location, such as <SAS install path>\Plan\.

Third Party Installation

Java Runtime

Check the correct version for your operating system in the *SAS Profitability Management 2.1 Systems Requirements*. The document is at <http://support.sas.com/documentation/installcenter/en/ikabmprofofrsr/62593/PDF/default/sreq.pdf>

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.

Note: On Windows servers, 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 2.1 Systems Requirements*. The document is at <http://support.sas.com/documentation/installcenter/en/ikabmprofofrsr/62593/PDF/default/sreq.pdf>

Ensure that the JUnit has been installed on the client.

Install SAS Client Software

For SAS Profitability Management 2.1, some localization will available at installation time. You can select a language to view the SAS Deployment Wizard other than English, but the following instructions are available only in English.

1. Start the SAS Deployment Wizard.
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 from SAS, select the appropriate order number.
5. Select a **Planned Deployment** and make sure that **Install SAS Software** and **Configure SAS Software** options are both checked. Click **Next**.
6. Choose the **Specify the full path to a customized deployment plan...** option. Enter the location of your plan file, such as <Path>:\SAS\
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. Select the **languages** that you would like to install and click **Next**.
9. 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**.
10. Select **Typical** on the Select Configuration Prompting Level and click **Next**.

11. **Browse** to the location of the existing configuration directory and click **Next**.
12. Click **Yes** on the message that the configuration directory already exists.
13. 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. Make sure you have restarted all the server machines 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 2.1 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**.

Validating SAS Workspace Server and OLAP Server

If you installed SAS Profitability Management using an incremental install or install 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**.
 - 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:

```
SET SASROOT=C:\Program Files\SAS\SASFoundation\9.2  
SET SAS_COMMAND=%SASROOT%\sas.exe
```
 - c. If the file is not correct, then check the file in the backup directory for the correct information

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 to 2.1

New Installations :

Windows: <Configuration Path>\Lev1\AppData\SAS ProfitabilityMgmt2.1

UNIX: <Configuration Path>/Lev1/AppData/SAS ProfitabilityMgmt2.1

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. Its location is defined in the section *Testing Your SAS Profitability Management Installation*.

SAS Profitability Management configuration creates the SAS Profitability Management 2.1 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 have full control and World has read. This is 774. After you create the PM Model database, the group does not need execute permission so the setting can be changed to 764.

The input and output datasets on UNIX should be set up so that Owner has full control, Group has read and write access and World has read. This is 764.

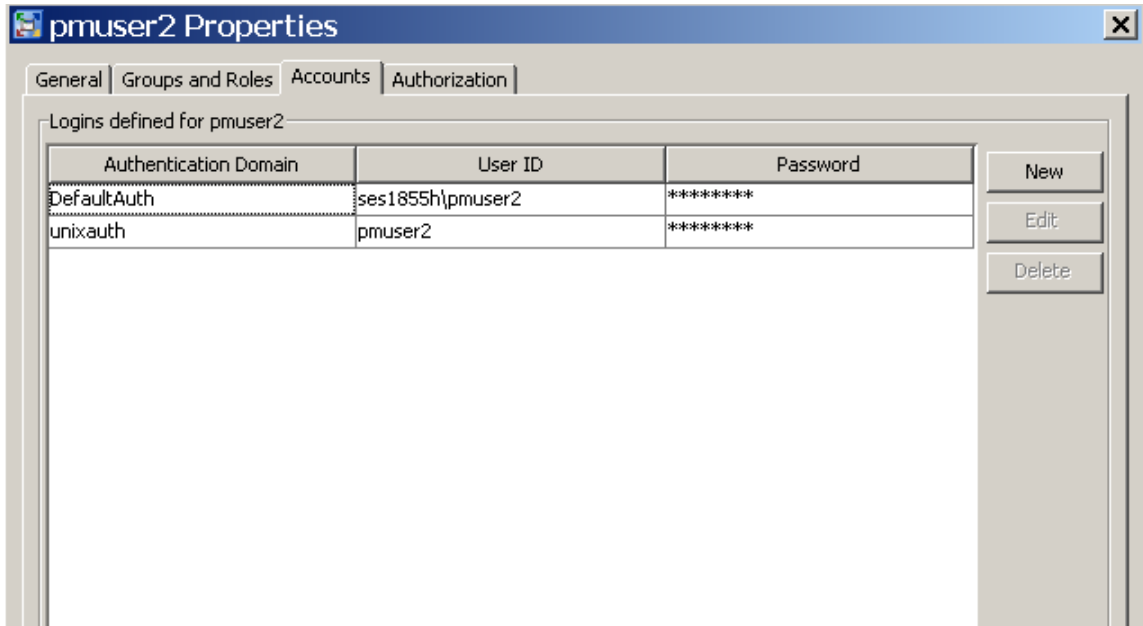
Profitability Management creates new directories and files for each model and for each report. On UNIX systems you may need to add the appropriate **umask** command in the `sas.sh` file found in your SAS Configuration directory. Add an appropriate `umask` command at the start of these files after the 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 `sas.sh` will affect all products/solutions that use the script to launch their SAS sessions

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.



Creating the SAS Profitability Management Database

If you are migrating from Profitability Management 1.3 to 2.1 **skip** this section and refer to the Upgrading SAS Profitability Management Database section below.

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 that you created during installation. Make sure that sasdemo is in the operating system PM Users group and that the group has the correct **permissions** for the Profitability Management directory.

On a Windows this directory is

<Configuration Path>\Lev1\ AppData\SAS ProfitabilityMgmt2.1

On a UNIX this directory is

<Configuration Path>/Lev1/AppData/SAS ProfitabilityMgmt2.1

If you migrated SAS Profitability Management from 1.2 to 1.3, you need to run the following SAS program before invoking

```
Proc SQL;
```

```
Alter table pmmodel.dimensiontable
```

```
Drop Constraint FOREIGN_KEY;
```

```
Quit;
```

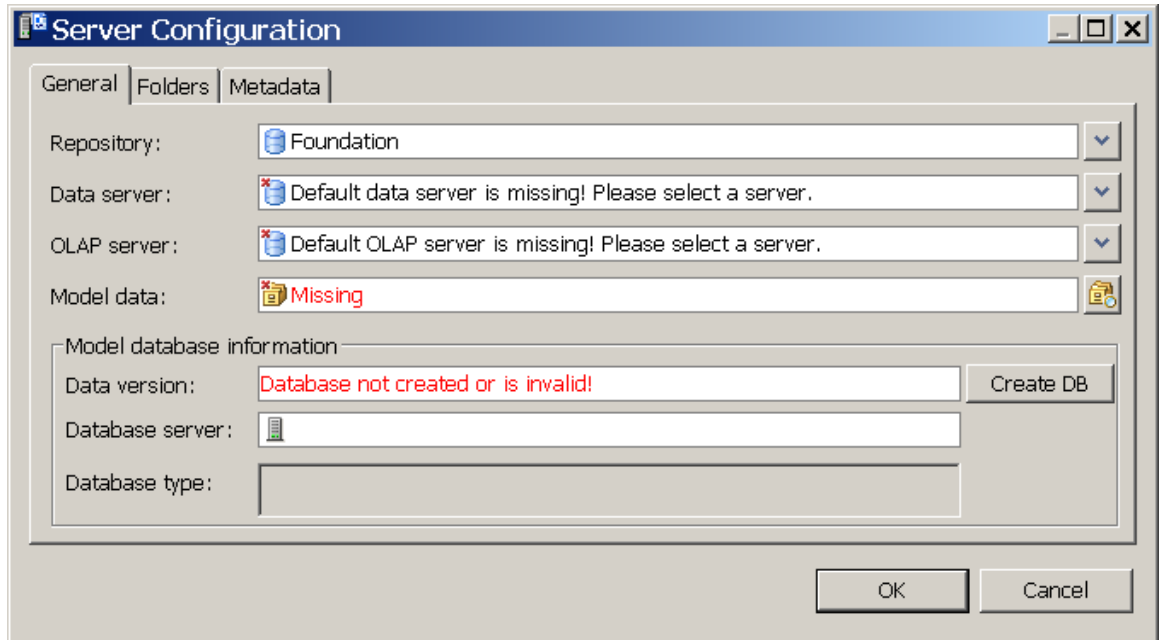
Do not manually put anything in the PM Model database. Input data, output data, and the PM Model database should be in separate directories on the operating system and each of the data libraries are in a separate metadata folder.

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

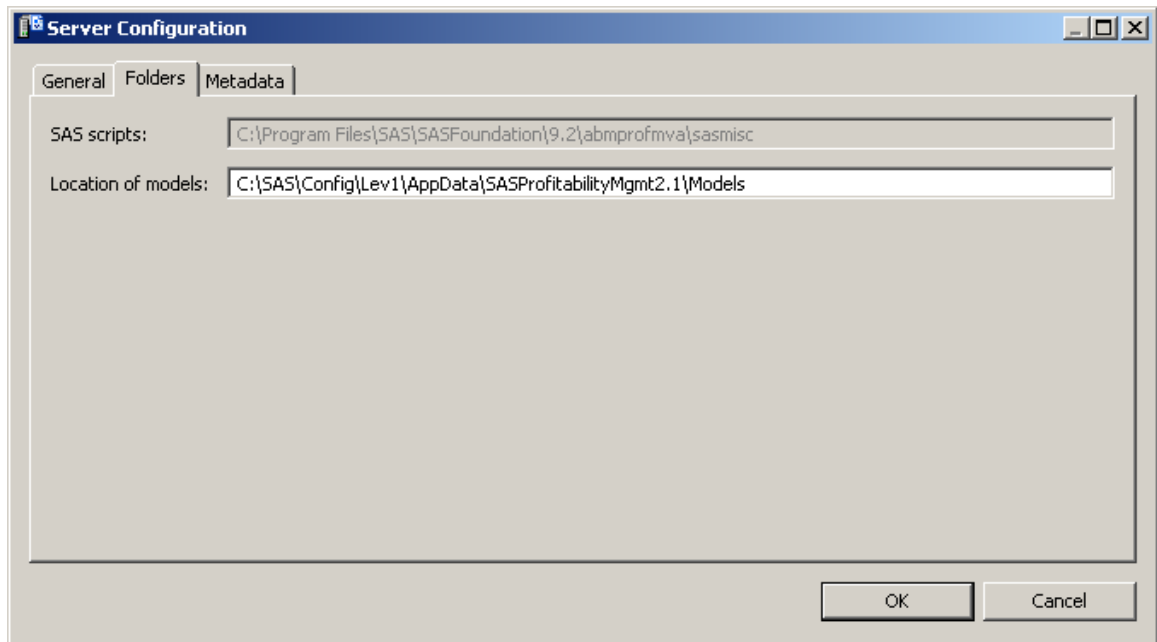
1. Launch the SAS Profitability Management client. You will be prompted to log into the SAS Metadata Server.
2. Enter a user name and password that is valid for your metadata installation. If the user is a network windows user, then prefix the user name with its domain and a “\”. If your servers are of mixed architecture, then you must fully qualify the name of the metadata server.



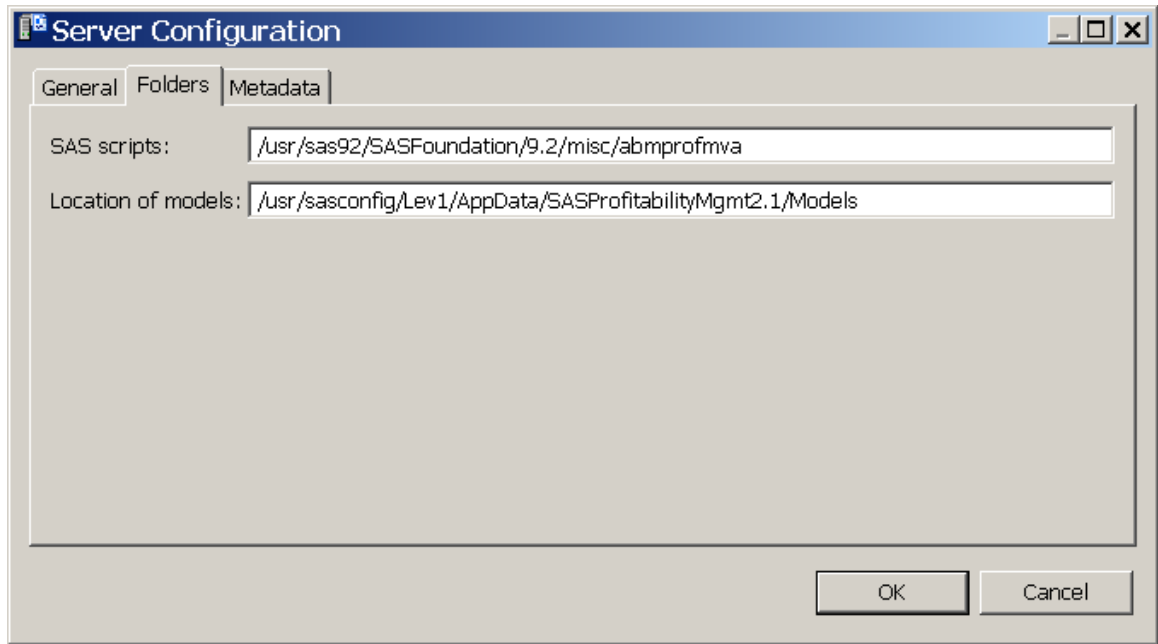
3. The Server configuration dialog appears.



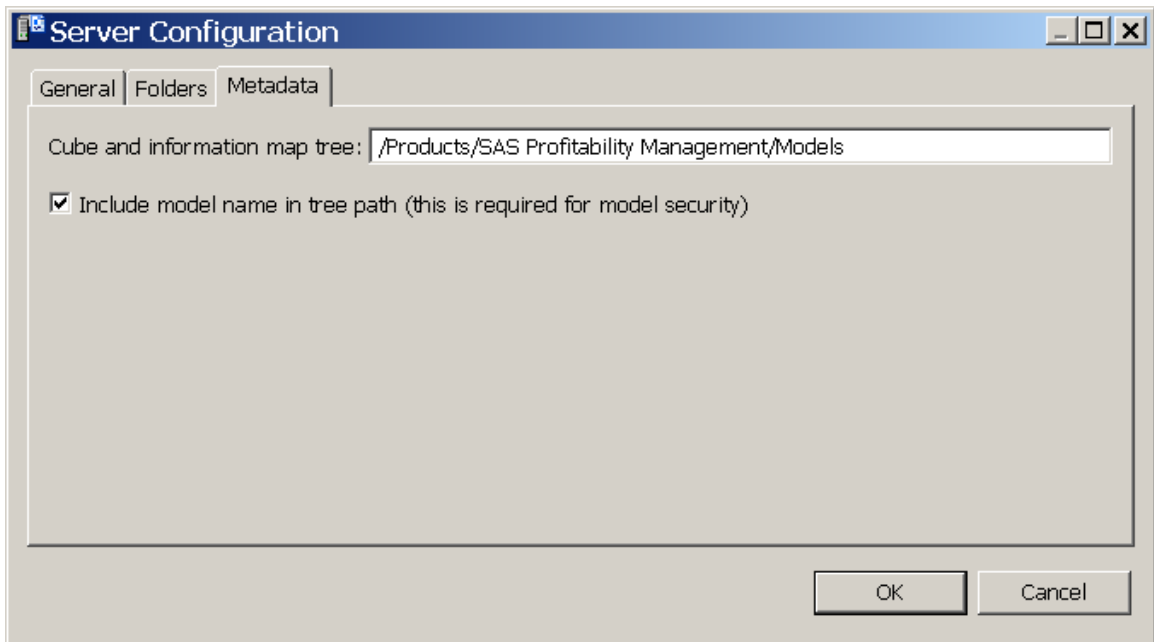
4. Select the **Folders** tab and verify the paths for SAS scripts and location of the models. For Windows Workspace Server, the Folder tab will look like this.



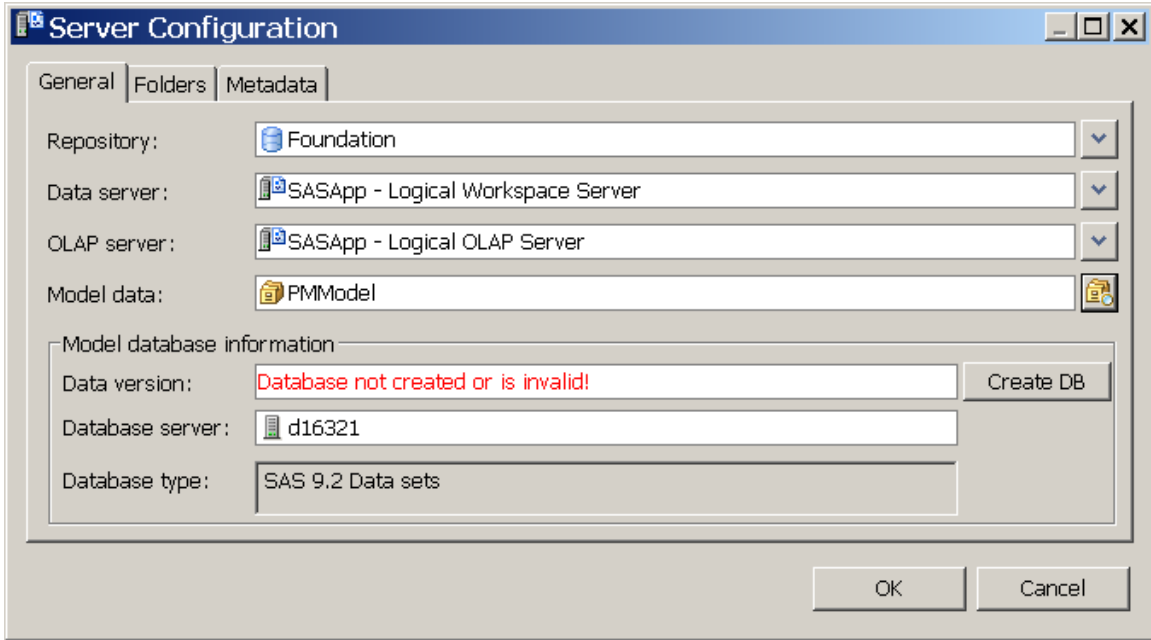
For a UNIX Workspace Server, the Folder tab will look like this. Notice that the location of the SAS scripts on UNIX is different from the location on Windows.



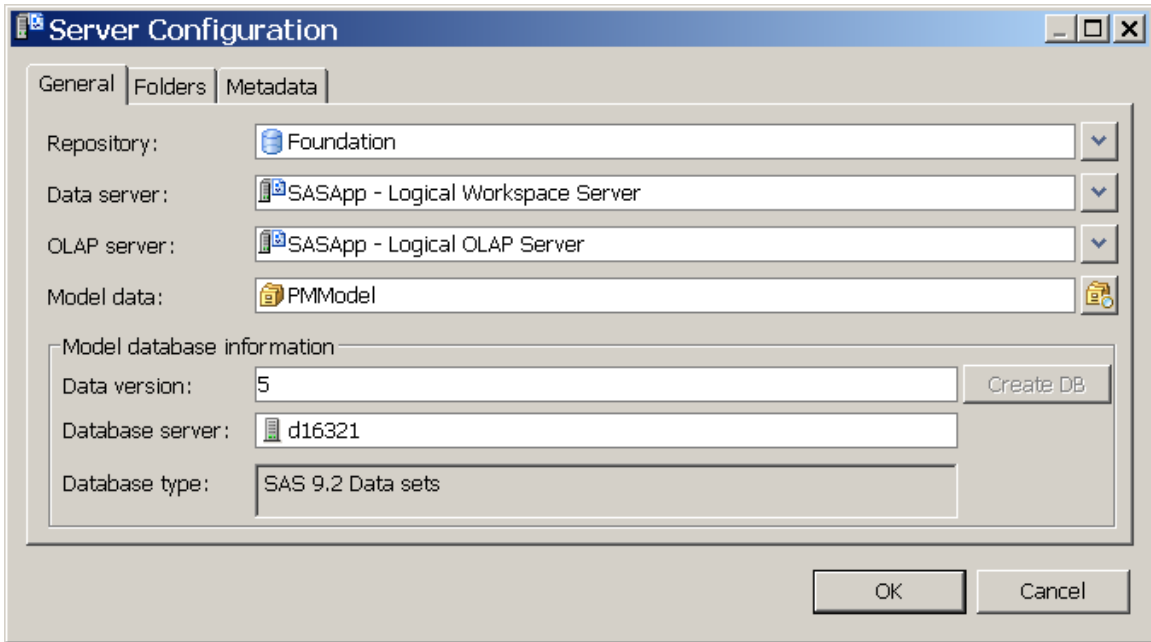
5. Select the **Metadata** tab and verify the metadata for the Cube and Information map tree. Leave the checkbox checked even if right now you do not plan to do model level security.



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



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



Click **OK** to close this dialog.

Upgrading the SAS Profitability Management Database

If you are migrating from SAS Profitability Management 1.3, you need to create new PMModel data sets with the one you saved before the installation. The new PM Model datasets will be in the following directories:

Windows: <Configuration Path>\Lev1\AppData\SAS ProfitabilityMgmt2.1\PMModel

UNIX: <Configuration Path>/Lev1/AppData/SAS ProfitabilityMgmt2.1/PMModel

Use the SAS CIMPORT procedure to restore the data. If new PMModel is in C:\SAS\Config\Lev1\AppData\SAS\ProfitabilityMgmt2.1\PMModel, the following program will move the tranfile to pmModel:

```
libname pmModel 'C:\SAS\Config\Lev1\AppData\ ProfitabilityMgmt2.1\PMModel';
filename tranfile 'transport-file';
proc cimport library=pmModel infile=tranfile;
run;
```

If you are migrating the data tier on the same machine as your existing SAS Profitability Management 1.3 data tier, you need to rename the old library and create a new PM Model library. This will help you if you want to reverse the migration if needed. Do the following steps:

1. Open the SAS Management Console on Windows client with sasadm.
2. Select the **Plug-ins** tab on the top.
3. Select the **Foundation** repository.
4. Expand **Data Library Manager and Libraries**.
5. Right click on the old PMModel library and select **Rename**.
6. Enter a new name and click **OK**.
7. Right-click **Libraries** and select **New Library....**
8. Select **SAS Base Engine Library** and click **Next**.
9. Supply a name: *PMModel* and make sure the folder is
 /System/Applications/SAS Profitability Management/Profitability Mgmt 2.1
10. Click **Next**.
11. Select **SASApp** and move it to the selected servers and click **Next**.
12. Supply a libref: *pmmodel*
13. For path specification, click **New**.

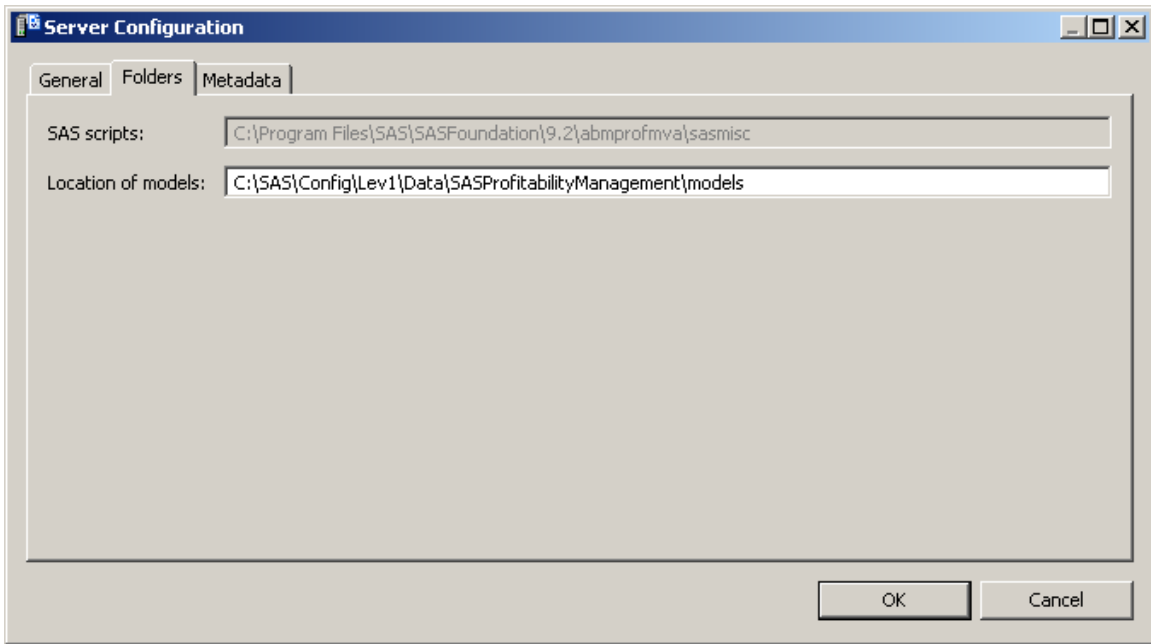
14. Supply one of the following paths:
Windows: <Configuration Path>\Lev1\AppData\SAS ProfitabilityMgmt2.1\PMModel
UNIX: <Configuration Path>/Lev1/AppData/SAS ProfitabilityMgmt2.1/PMModel
15. Click **OK**.
16. Click **Next**.
17. Click **Finish**.
18. Right mouse click on the library just created and select **Properties**
19. Select the **Authorization** tab and make sure that **PM Users** has full access to the library.
20. Click **OK**.

You need to add the old PM Users group as a member of the new Profitability Management Users. To do this use the following instructions.

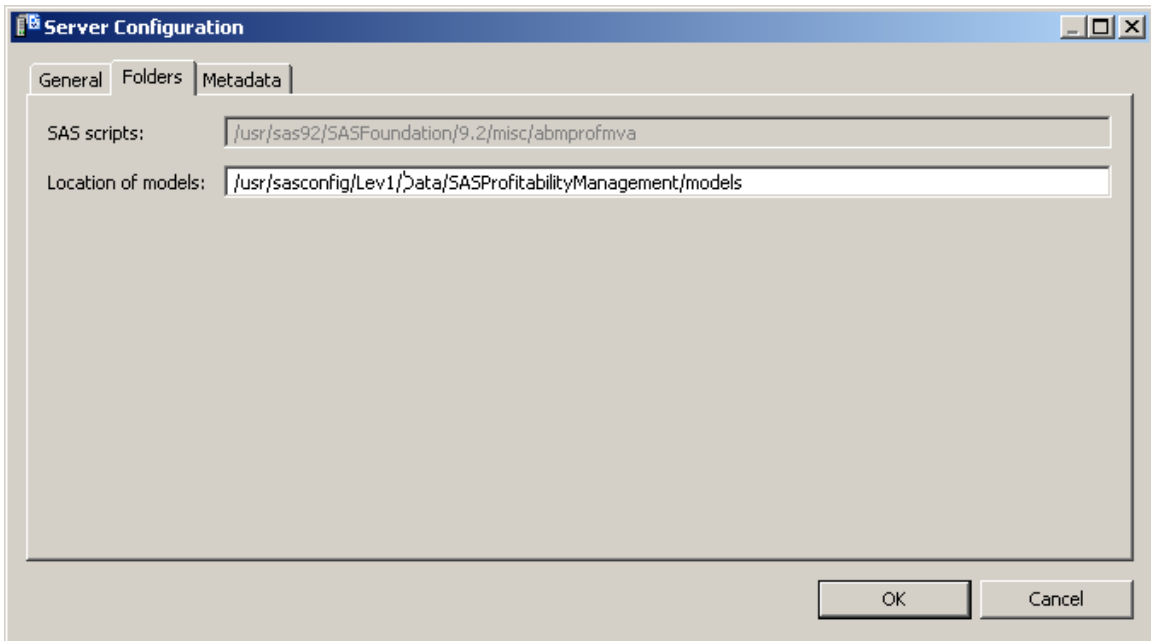
1. Open the SAS Management Console on Windows client with sasadm.
2. Select the **Plug-ins** tab on the top.
3. Select the **Foundation** repository.
4. Expand **Environment Management** branch.
5. Select **User Manager**.
6. Right-click **Profitability Management Users** and select **Properties**.
7. Select the **Members** tab.
8. Select the **PM Users** group from the **Available Identities** and move it to the **Selected Identities**.
9. Click on **OK**.

One user should log into the client before the other users using sasdmo. 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.

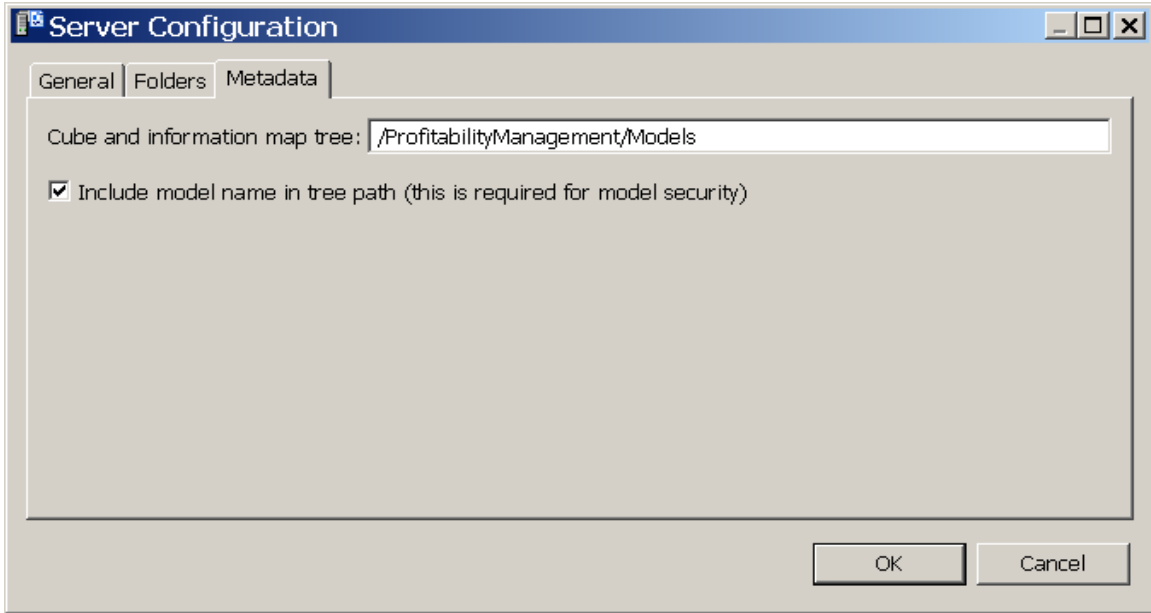
For Windows Workspace Server it will look like this.



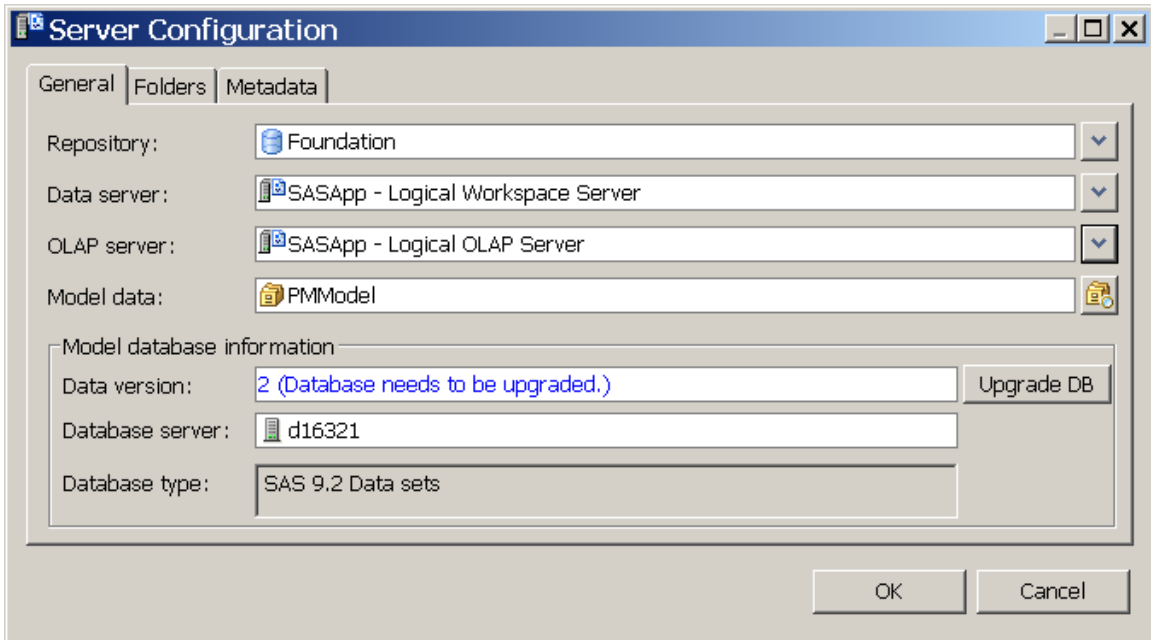
For UNIX Workspace Server it will look like this.



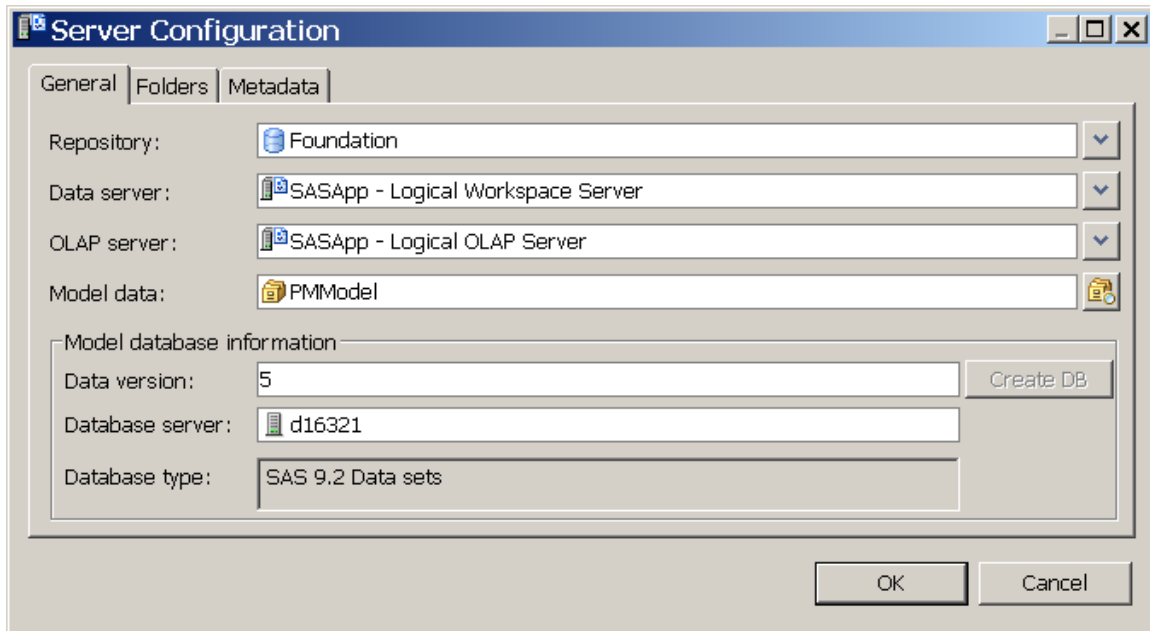
Then select the **Metadata** tab and change the cube and information map tree to the location you used with SAS Profitability Management 1.3. Leave the check box checked. (This was how it worked in SAS Profitability Management 1.3.)



Go back to the **General** Tab and set the appropriate OLAP server.



After you have upgraded the database the dialog is shown below



Click **OK** to close this dialog.

Setting Permissions on Metadata Folders

If you are migrating from SAS Profitability Management 1.3 to 2.1, 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 2.1 ships 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

SAS Profitability Management_Tutorial.pdf.

Using the SAS Profitability Management Tutorial

A tutorial zip file, Tutorial.zip, is installed with the SAS Profitability Management Data Tier component. You can find this on the at the following locations.

Windows: `<SAS install path>\SASProfitabilityManagementDataTier\2.1\Tutorial.`

UNIX:

`/<SAS install path /SASProfitabilityManagementDataTier/2.1/Tutorial.`

Installation of Tutorial

Unzip the tutorial.zip file to your configuration directory on the .

Windows: `<Configuration Path>\Lev1\AppData\SASProfitabilityMgmt2.1`

UNIX: `/<Configuration Path> /Lev1/AppData/SASProfitabilityMgmt2.1`

1. Using the operating system, create two directories in the Tutorial subdirectory of this configuration directory, one named Tutorial_Start and the other named Tutorial_End.
2. If you are on a Windows 32-bit operating system you can simply copy the SAS datasets with extension “.sas7bdat” files into Tutorial_Start. If not, see the section on converting the tutorial data.

Converting Tutorial Data to Your Operating System

If the tutorial is not installed on a Windows 32-bit operating system then you need to convert them to your operating system. You should use the SAS Procedure CPORT to copy them and the SAS Procedure CIMPORT to read them.

If your existing tutorial data is in

`C:\SAS\Config\Lev1\AppData\SASProfitabilityMgmt2.1\Tutorial,`

the following program will copy the files from Tutorial to tranfile.

```
libname tutorial 'C:\SAS\Config\Lev1\AppData\SASProfitabilityMgmt2.1\ Tutorial';  
filename tranfile 'transport-file' ;  
proc cport library=tutorial file=tranfile memtype=data;  
run;
```

If you want the data in

`C:\SAS\Config\Lev1\AppData\SASProfitabilityMgmt2.1\Tutorial\Tutorial_Start,`

the following program will move the tranfile to Tutorial_Start

```
libname tutorial  
'C:\SAS\Config\Lev1\AppData\SASProfitabilityMgmt2.1\pmmmodel\Tutorial_Start';  
filename tranfile 'transport-file';  
proc cimport library=tutorial infile=tranfile;  
run;
```

Setting Up Input and Output Libraries and Metadata Folders

Register the tutorial input and output libraries in metadata using the following steps:

1. Open the SAS Management Console on Windows client with <SAS Administrator User>.
2. Select the **Folders** tab on the top.
3. Expand **Products** branch and right click on **SAS Profitability Management** folder and select **New Folder**.
4. Supply a name: *Tutorial End*
5. Select the **Plug-ins** tab on the top.
6. Select the **Foundation** repository.
7. Expand **Data Library Manager**.
8. Right-click **Libraries** and select **New Library....**
9. Select **SAS Base Engine Library** and click **Next**.
10. Supply a name: *Tutorial End*
11. Location: and click **Next**.
12. Select **SASApp** and move it to the selected servers and click **Next**.
13. Supply a libref: *Tut_End*
14. For path specification, click **New**.
15. Supply one of the following paths:
 - Windows:** <Configuration Path>\Lev1\AppData\SASProfitabilityMgmt2.1/Tutorial/Tutorial_End
 - UNIX:** <Configuration Path>/Lev1/AppData/SASProfitabilityMgmt2.1/Tutorial/Tutorial_End
16. Click **OK**.
17. Click **Next**.
18. Click **Finish**.
19. Right mouse click on the library just created and select **Properties**
20. Select the **Authorization** tab and make sure that **Profitability Management Users** has full access to the library.
21. Repeat steps 2 thru 19 with name= *Tutorial Start* and libref = *Tut_Star* and path

Windows: <Configuration Path>\Lev1\AppData\SASProfitabilityMgmt2.1\Tutorial\Tutorial_Start

UNIX: /<Configuration Path>/Lev1/AppData/
SASProfitabilityMgmt2.1/Tutorial/Tutorial_Start

22. Right-click the new library, *Tutorial Start*, and select **Register tables**. Registering tables can only be done on a Windows SAS Management Console.
23. Click **Next**.
24. If prompted enter a user ID and password that has access to the files, *sasdemo*, and click **Next**.
25. Select all the tables and click **Next** twice.
26. Close the SAS Management Console.
27. Using the operating system tools, give the PM Users operating system group full access to both the *Tutorial_Start* and the *Tutorial_End* folders.

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 and generate a cube. 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 BEA Products NodeManager (C_SAS_Config_Lev1).

WebSphere is named IBM WebSphere Application Server V6.1 - SASAppSrv01Node

If there are no 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
"IBMWAS61Service - 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/SASProfitability/
```

For WebLogic the starting URL is

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

For WebSphere the starting URL is

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

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
"IBMWAS61Service - 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/SASProfitability/
```

For WebLogic the starting URL is

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

For WebSphere the starting URL is

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

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

Running SAS Profitability Management Diagnostics

SAS Profitability Management 2.1 ships with a diagnostics utility that is installed on all three Profitability Management Tiers. This includes 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 does two types of things. 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 code exists if you are logged on to a machine that only has web code.

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\2.1\diagnostic

UNIX: <SAS install path>/SASProfitabilityManagementUtility/2.1/diagnostic

Check for the following line:

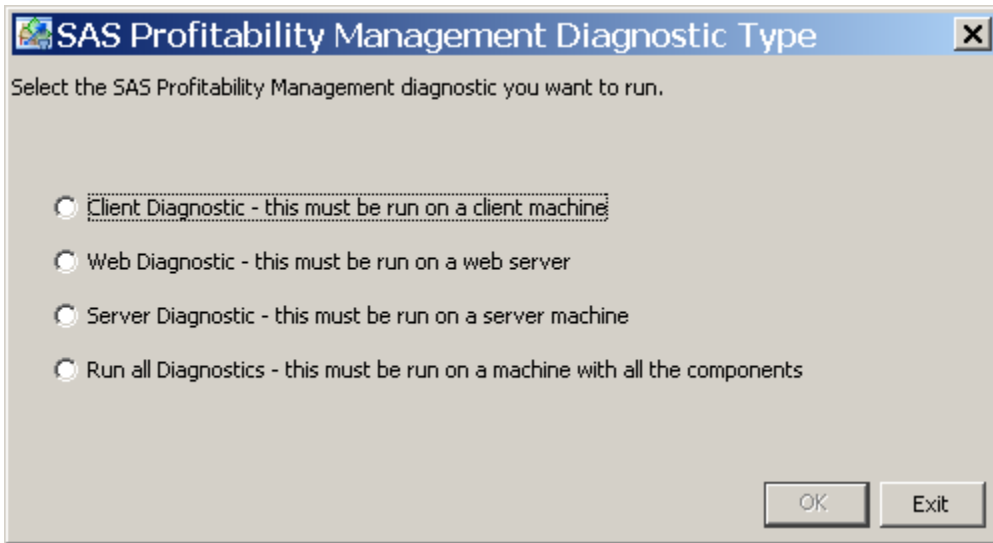
```
JavaArgs_4=-Dsas.app.class.path="<path to your junit.jar>"
```

If the path is not specified, then supply it with your path to junit.jar

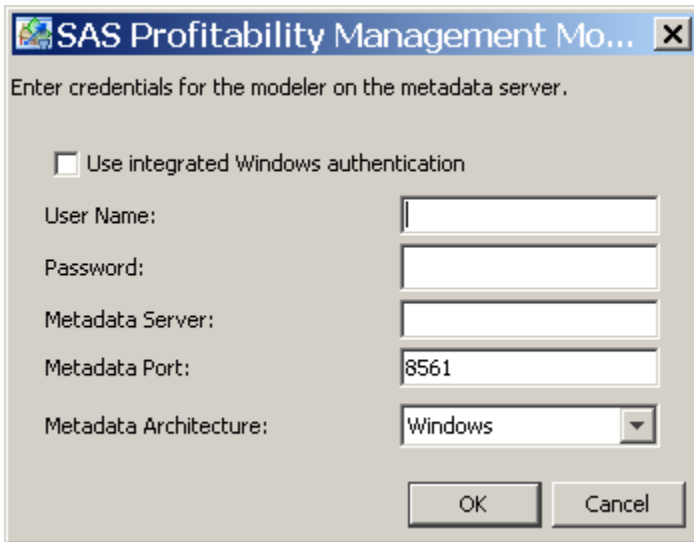
Update the following line to get a log:

```
applogloc=launcher.log
```

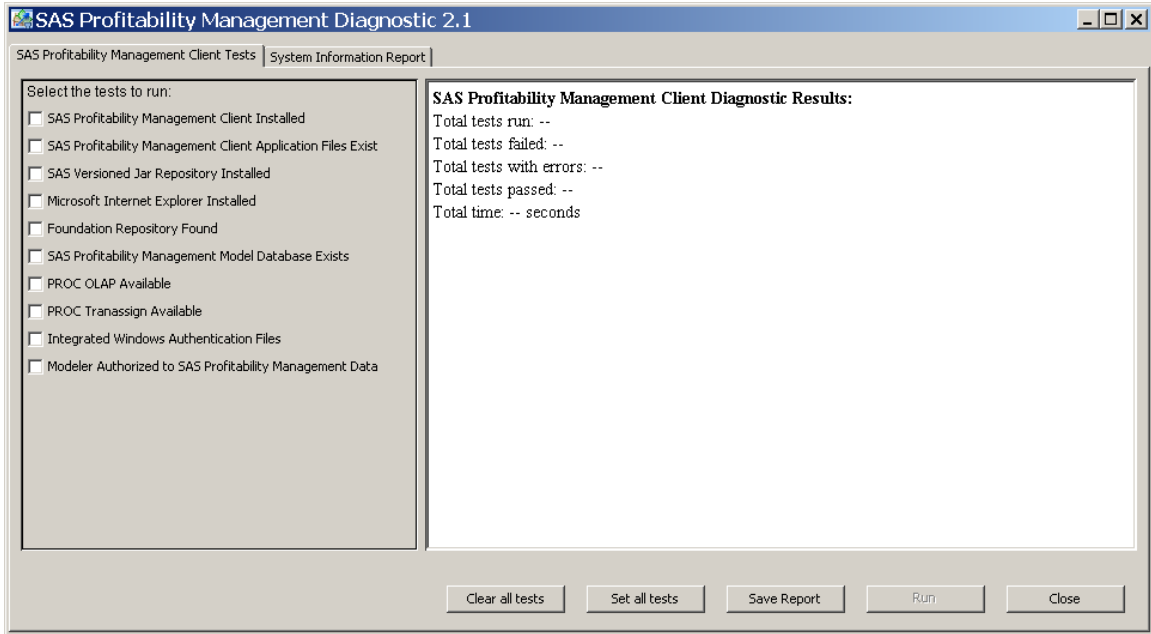
The following picture shows the first dialog of the diagnostic utility. You must pick the diagnostic you want to run depending upon what machine you are running the diagnostic on.



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.

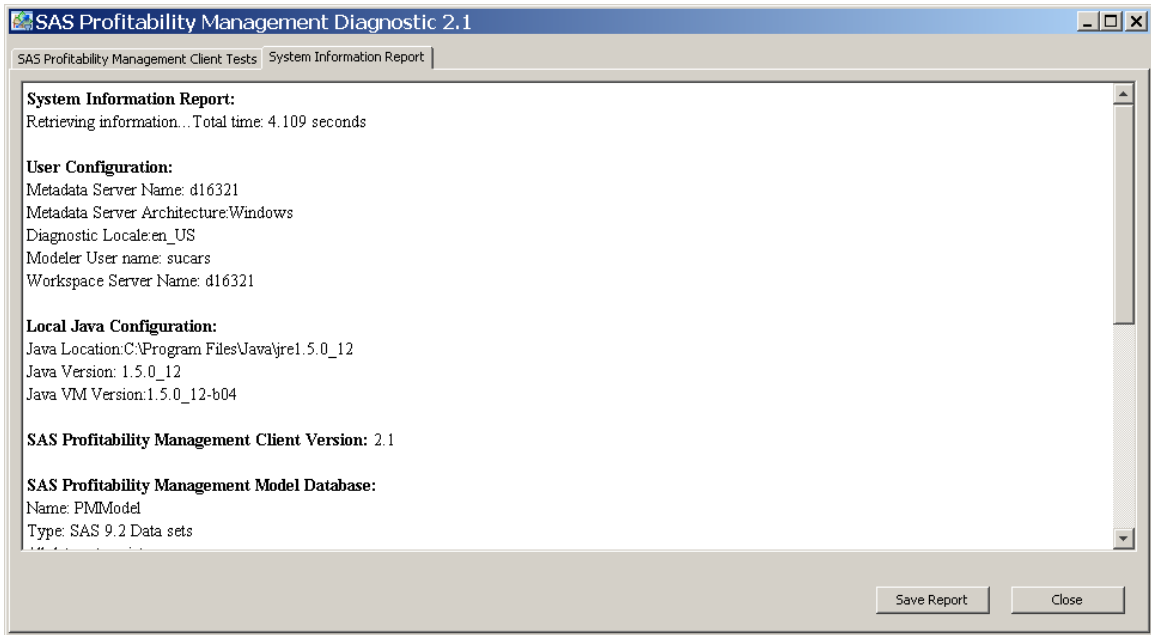


If you selected to test the client the following dialog will appear. The first tab seen below will appear. You can select to run one or more tests.



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\\SAS\SAS Profitability Management Diagnostic\2.1. On UNIX the default location for this log is //SAS/SAS Profitability Management Diagnostic/2.1.

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



Chapter 6 – Post-Migration Guide

SAS Profitability Management 2.1 has added new functionality to the code templates and reorganized the metadata for the new SAS 9.2 standards. Since you are migrating from SAS Profitability Management 1.3 to 2.1 your SAS Administrator User is sasadm.

Update the Code Templates

If you have made changes to the Profitability Management 1.3 templates then you will need to make the same changes to the Profitability Management 2.1 templates.

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

Windows:

Old location: <SAS_HOME>\SAS\abmprofmva\sasmisc

New Location <SAS_HOME>\SAS\SASFoundation\9.2\abmprofmva\sasmisc

UNIX:

Old location: <SAS_HOME>/SAS/misc/abmprofmva

New Location <SAS_HOME>SAS/SASFoundation/9.2/misc/abmprofmva

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 9.2 all cubes need to be regenerated. You can also use SAS Management Console 9.2 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 9.2 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 2.1 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 9.2. 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 9.2. 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

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, and 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>.

Adding Additional PM Users

It is recommended that each Profitability Management user have their 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 the ability to logon 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. If your operating system has a groupadd utility then add the users that way. Otherwise use the following instructions.

1. Open the file `/etc/group`.
2. Add an entry for the pm users where 200 is an unused group ID.

```
pmusers::200:<userid1>,<userid2>,...
```
3. Save the file and exit the editor.

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 Management 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.

Note: When assigning the login credentials for each user, make sure you prefix each Windows user name with the domain name of the user. You don't need to prefix UNIX users.

Relational Database Management Support (Optional)

Out of the box, SAS Profitability Management 2.1 is installed to use SAS data sets for its model database. You can change that to use one of the following

- Microsoft SQL Server 2005
- MySQL Server 5.0
- Oracle 11g Server

See Appendix A for instructions on using one of these RDMS.

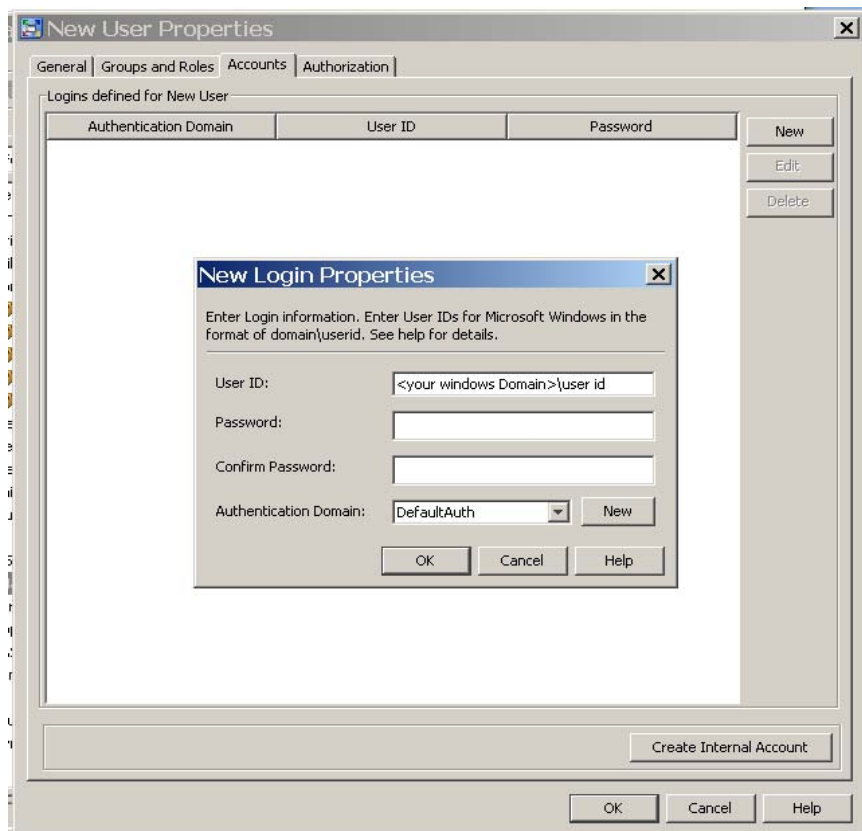
Integrated Windows Authentication (IWA)

For release 2.1, 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.

Three things need to be done for this to work.

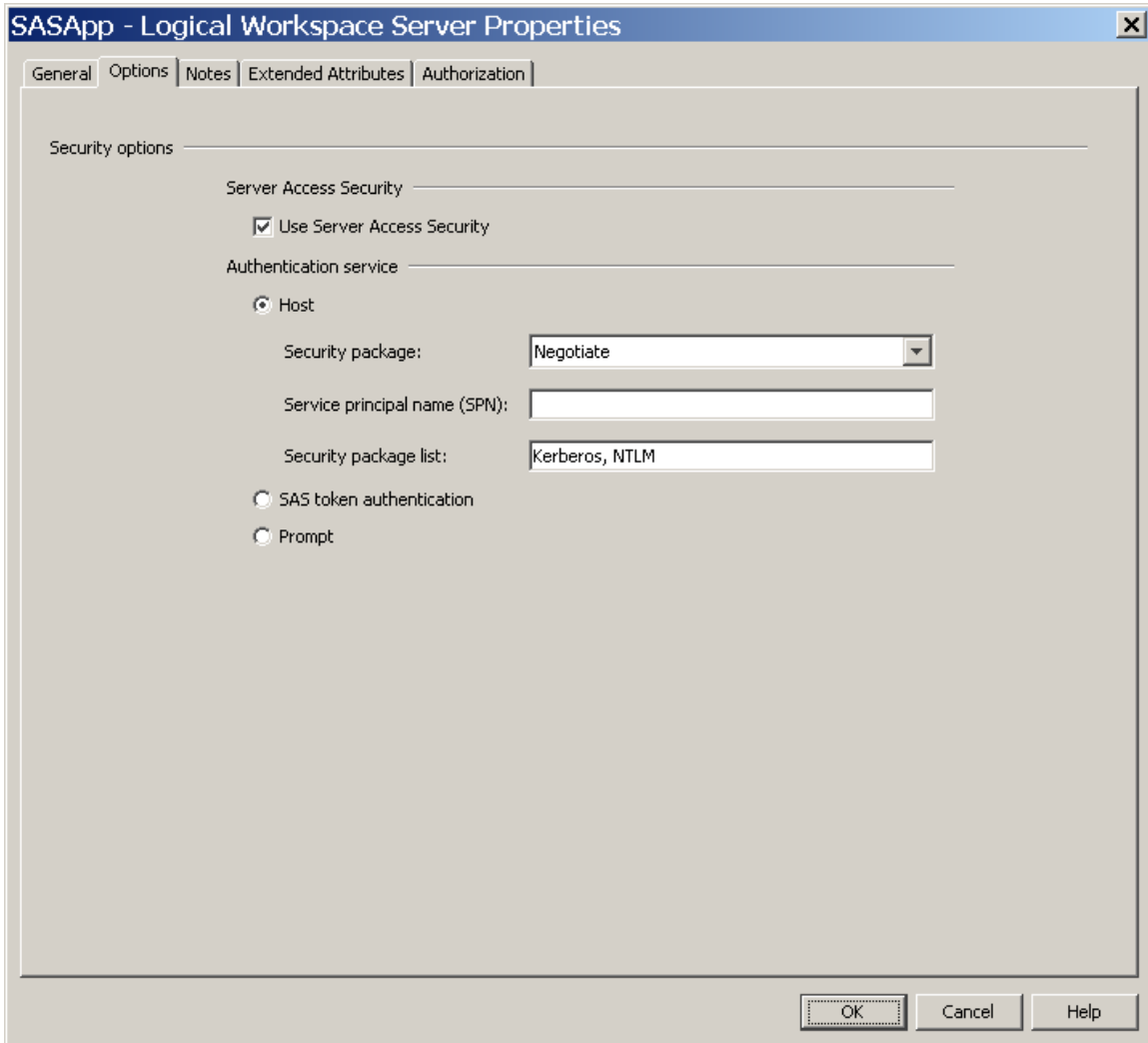
You must be using a network user ID.

You must create a User in SAS Management Console with account domain\user ID. See the picture below,



And you must be set to **Negotiate**. This can be done during installation but if it is not then open the SAS Management Console and change the Security package to Negotiate.

From the Plug-in tab of the SAS Management Console, expand the Environment Management, and the Servers



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 userA, you need to do the following

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 mouse 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 2.1 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\9.2\abmprofmvva\sasmisc.

UNIX: /<SAS install path>/SASFoundation/9.2/misc/abmprofmvva

The following templates can be modified

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 2.1 provides logging for the client and the web applications.

Client Logging

The client logging is controlled by the log4j.properties file in the SASProfitabilityManagementClient/2.1 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 user, you will need to change the log4j.appender.file.File parameter to include a directory outside of the Program Files directory. Update the following line

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

Web Logging

The 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 SASProfitability2.1.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.

The following steps will set up the PMModel database to run on a SAS/Share server. Some steps are done on the operating system and some on the SAS Metadata Console. The SAS/Share server should reside on the Workspace Server where the PMModel data lives.

Adding a SAS/SHARE Server

To add a SAS/SHARE server, you need to open the SAS Management Console on a Windows client.

1. Open the SAS Management Console with user ID, <SAS Administrator User>.
2. Click the **Plug-ins** tab at the top.
3. Select the **Foundation** repository.
4. Expand **Environment Management** branch.
5. Right mouse click on the **Server Manager** and select **New Server**.
6. Select the **SAS/Share Server** and click **Next**.
7. Supply a name for the server and click **Next**.
8. On the server properties, verify the Major Version is 9 and the Minor Version is 2 and click **Next**.

9. On the connection properties, select **TCP** as the communication Protocol, and enter the fully qualified server name as the host.
10. Enter a short host name for the Short Host Name and the Session ID.
11. Create a new Authentication Domain by clicking the **New...** button.
12. Fill in the name for the authentication domain and click **OK**.
13. Click **Next**.
14. Review your choices and click **Finish**.

Defining the Library as SAS/SHARE library

To define a library on the SAS/Server you should open the SAS Management Console a Windows client.

1. Open 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 mouse click the **Libraries** and select **New Library**.
7. Select the SAS/Share Remote Engine Library and click **Next**.
8. Enter a name for the library
9. Make sure the location is
/System/Applications/SAS Profitability Management/Profitability Mgmt 2.1 and press **Next**.
10. Select the **Share Server** on the available servers and move it to the selected servers and press **Next**.
11. Enter a libref name and click **Next**.
12. Select a **SAS/Share** library
13. Select a default Login
14. Click **Next**.
15. Review your choices and press **Finish**.

Appendix A – Using RDMS for SAS Profitability Management Data

In SAS Profitability Management Version 2.1, you can have your PM Model data set in a Relational Database Management Systems (RDMS) as well as SAS datasets. The supported databases are

1. Microsoft SQL Server 2005
2. MySQL Server 5.0
3. Oracle 11g Server

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, and 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>.

Overview of the Tasks

SAS Profitability Management (PM) installs using SAS data sets. To change PM to use RDMS rather than SAS data sets, you must do the following tasks.

1. Install the RDMS if it is not already installed. Use the documentation for the RDMS to do this step and the following four steps.
 - a. Get any client tools you need including the JDBC driver.
 - b. In RDMS, create an empty database (can have system tables).
 - c. In RDMS, create a user ID with full access to the new database.
 - d. For Microsoft SQL Server and Oracle, install the client tools on each client machine.
2. In SAS Management Console, create a server for the RDMS (Specific instructions for each database are displayed later).
3. In SAS Management Console, add an account to the Profitability Management Users group with the user ID you created.
4. In SAS Management Console, create a data library for this database.
5. Put the JDBC jars, sqljdbc.jar etc., in ... \JRE\lib\ext directory on the client machines.
6. Close the web application and the SAS Remote Services and restart the machine.
7. Open SAS Profitability Management client and change the database on the server configuration to the library created. Then click the **Create DB** button. This needs to be done only one time and by only one client. Exit the client before you do any other work.

Microsoft SQL Server

You need to install the Microsoft SQL Server 2005 Client tools and 2005 JDBC driver, sqljdbc.jar, on each client machine. The client tools can be installed from your SQL Server install. You can download the JDBC driver from the Microsoft Web.

<http://www.microsoft.com/sqlserver/2005/en/us/java-database-connectivity.aspx>

Place the sqljdbc.jar in your JRE extension directory at ... \JRE\lib\ext on all the client machines. If you have more than one Java installed you need to put it in the Java that is in your path.

Place the sqljdbc_auth.dll in the Profitability Management Client directory if you plan to use Integrated Windows Authentication to your SQL Server.

Creating Environmental Variable

You need to create an environmental variable BCP_HOME to point to the client tools on all client machines. For example follow these steps if you installed the client tools at C:\Program Files\Microsoft SQL Server\90\Tools.

1. Bring up the System Property via **Start→Control Panel→System**.
2. Open the **Advanced Tab** and click **Environment Variables**.
3. Under **System Variables**, highlight **BCP_HOME** and click **Edit**. If **BCP_HOME** does not exist, click **New**. Enter the path to the client tools, normally C:\Program Files\Microsoft SQL Server\90\Tools.
4. Click **OK** for each of the windows opened.

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

Integrated Windows Authentication (IWA)

To use windows authorization with the SQL Server, you need sqljdbc_auth.dll on all your client machines. This is part of the Microsoft SQL Server 2005 JDBC driver. It can be placed with the spsi_auth.dll in the client directory.

After the database and user ID have been created in the RDMS, you need to register the RDMS in the SAS Management Console if it not already registered as a Server.

Registering the Microsoft SQL Server 2005

Start the SAS Management Console from any windows machine and following the steps below.

1. Open the SAS Management Console with user ID, <SAS Administrator User>.
2. Select the **Plug-ins** tab.
3. Select the **Foundation** repository.
4. Expand the **Environment Management**,
5. Right mouse on the **Server Manager** and select **New Server**.
6. Select **OLE DB Server** and click **Next**.
7. Enter a name for the server and click **Next**.

8. Select the data source as **OLE DB – Microsoft SQL Server (PC Client)**.
9. Select the associated machine that where database resides. If there is not a host defined click the **New** button to add it.
10. Click **Next**.
11. Enter the fully qualified name of the machine where the Microsoft SQL Server 2005 is located. You must enclose the name with double quotes.
12. Enter a provider of **SQLOLEDB.1**.
13. Create a new authentication domain for Microsoft SQL Server 2005 by clicking the **New** button and adding a domain name.
14. Click **Next**.
15. Review the information you supplied and click **Finish**.

Granting Access to PM Users

We will give the Profitability Management Users metadata group access to the SQL Server so that all users in the group have access to it.

1. Open the SAS Management Console with user ID, <SAS Administrator User>.
2. Select the **Plug-ins** tab.
3. Select **Foundation** repository.
4. Expand **Environment Management**.
5. Select the **Profitability Management Users** group and look at its properties.
6. Select the **Accounts** tab.
7. Click **New** button.
8. Supply the **user ID** and **password** that you set up in the database.
9. Select the Authentication **Domain** that you set up in SAS Management console when the SQL Server was registered.
10. Click **OK** to the new account.
11. Click **OK** to change the properties of <PM user group>.

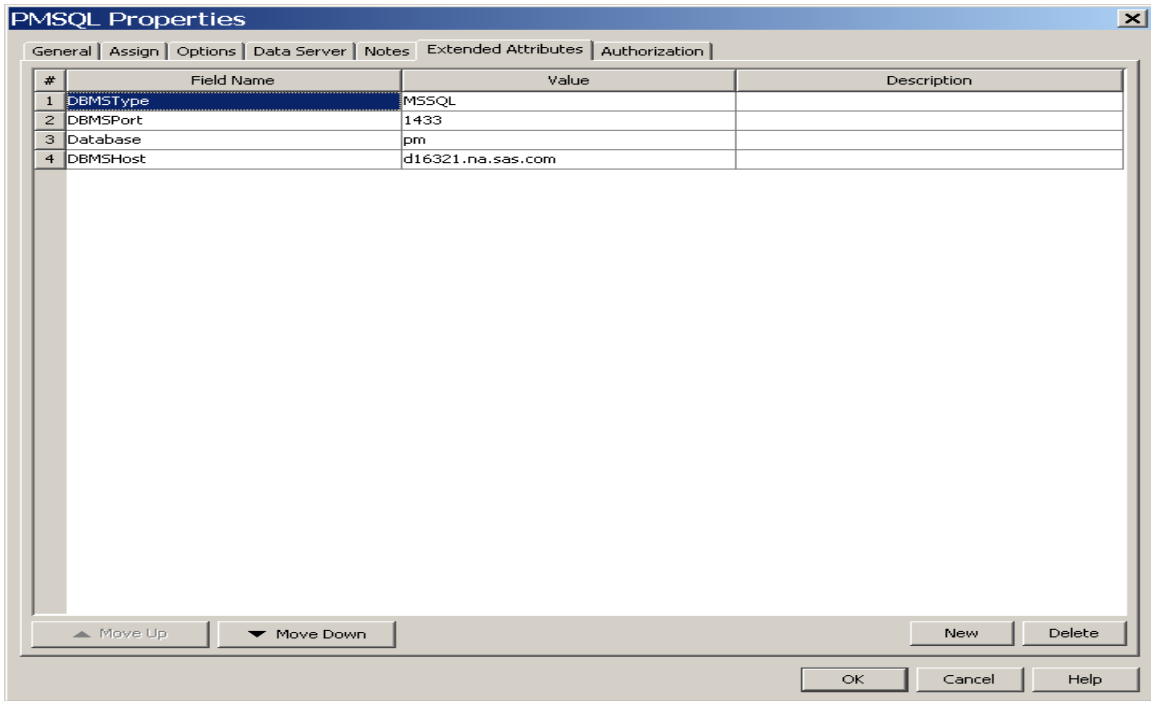
Create a SAS Management Data Library

1. Open the SAS Management Console with user ID, <SAS Administrator User>.
2. Select the **Plug-ins** tab.
3. Select **Foundation** repository.
4. Expand **Environment Management**
5. Expand **Data Library Manager**.
6. Under the Data Library Manager and select **New Library**.
7. Select **OLE DB Library** and press **Next**.

8. Enter a name for the library and browse to the folder **location**
/System/Applications/SAS Profitability Management/Profitability Mgmt 2.1
9. Click **Next**.
10. Select the Application server from the list of available servers and move it to the list of selected servers. The name is usually **SASApp**.
11. Click **Next**.
12. Enter a **libref** name of 8 characters or less and click **Next**.
13. Select the **Server** registered in the first step.
14. Pick the **Default Login** from the pull down. If the user is not shown then click on **more** logins. From this dialog you can search or view all users with this authentication domain.
15. Click **Next**.
16. Review the information you supplied and click **Finish**.

Enter Extended Attributes for the Database Library

1. Open the SAS Management Console with user ID, <SAS Administrator User>.
2. Select the **Plug-ins** tab.
3. Select **Foundation** repository.
4. Expand **Environment Management**.
5. Expand **Data Library Manager** and **Libraries** directories.
6. Select **SQL Server library** and look at its properties.
7. Select the **Extended Attributes** tab.
8. Click **New** four times. This should give you four extended attributes.
9. Enter the following into the first attribute:
Field Name = **DBMSType**, Value = **MSSql**
10. Enter the following into the second attribute:
Field Name = **DBMSPort**, Value = **1433**
11. Enter the following into the third attribute:
Field Name = **Database**, Value = <the name of the database in the RDBMS>
12. Enter the following into the fourth attribute:
Field Name = **DBMSHost**, Value = <Enter name of the SQL Server machine>



MySQL Server

You need to install the MySQL JDBC driver, `mysql-connector-java-5.0.8-bin.jar`, on all the client machines. You can download it from the MySQL Web.

<http://dev.mysql.com/downloads/connector/j/5.0.html>

Place the `mysql-connector-java-commercial-5.0.8-bin.jar` in your JRE extension directory at `... \JRE \lib \ext` on all the client machines. If you have more than one Java installed you need to put it in the Java that is in your path.

If the MySQL database is not on the you need to put myMySQL GUI Tools Bundle for 5.0. on the Workspace Server machine.

Updating Automation File

If you are going to use SAS Profitability Management Automation with a MySQL database, you need to update the `sas.ext.config` file in your SAS Profitability Management Utility Automation.

The file can be found in one of the following paths:

Windows: `<SAS install path>\SASProfitabilityManagementUtility\2.1\automation`

UNIX: `< SAS install path>/SASProfitabilityManagementUtility/2.1/automation`

Edit the file and replace the existing Mysql jar (`mysql-connector-java-commercial-5.0.3-bin.jar`) with `mysql-connector-java-commercial-5.0.8-bin.jar`.

Registering the MySQL Server

After the database and user ID have been created in the RDMS, you need to register the RDMS in the SAS Management Console if it is not already registered as a Server.

Start the SAS Management Console from any windows machine and perform the steps below.

1. Open the SAS Management Console with user ID, <SAS Administrator User>.
2. Select the **Plug-ins** tab.
3. Select **Foundation** repository.
4. Expand **Environment Management**.
5. Right mouse on **Server Manager** and select **New Server**.
6. Select **MySQL Server** and click **Next**.
7. Enter a name for the server and click **Next**.
8. Select the associated machine where the database resides. If there is not a host defined click the **New** button to add it.
9. Click **Next**.
10. Enter the name of the MySQL database.
11. Enter the fully qualified name of the machine where the MySQL Server is located. You must enclose the name with double quotes.
12. Create a new authentication domain for MySQL Server by clicking the **New** button and adding a domain name.
13. Click **Next**.
14. Review the information you supplied and click **Finish**.

Granting Access to PM Users

We will give the Profitability Management Users metadata group access to the MySQL Server so that all users in the group have access to it.

1. Open the SAS Management Console with user ID, <SAS Administrator User>..
2. Select the **Plug-ins** tab.
3. Select **Foundation** repository.
4. Expand **Environment Management**.
5. Select the **Profitability Management Users** group and look at its properties.
6. Select the **Accounts** tab.
7. Select the **New** button.
8. Supply the **user ID** and **password** that you set up in the database.
9. Select the **Authentication Domain** that you set up in SAS Management console when the MySQL Server was registered.
10. Click **OK** to the new account.
11. Click **OK** to change the properties of <PM user group>.

Create a SAS Management Data Library

1. Open the SAS Management Console with user ID, <SAS Administrator User>..
2. Select the **Plug-ins** tab.
3. Select **Foundation** repository.
4. Expand **Environment Management**.
5. Expand **Data Library Manager**.
6. Right mouse on the **Libraries** under the Data Library Manager and select **New Library**.
7. Select **MySQL Library** and click **Next**.
8. Enter a name for the library.
9. Make sure that the folder location is
/System/Applications/SAS Profitability Management/Profitability Mgmt 2.1.
10. Click **Next**.
11. Select the Application server from the list of available servers and move it to the list of selected servers. The name is usually **SASApp**.
12. Click **Next**.
13. Enter a **libref** name of 8 characters or less and click **Next**.
14. Select the **Server** registered in the first step.
15. Pick the **Default Login** from the pull down. If the user is not shown then click on **more** logins. From this dialog you can search or view all users with this authentication domain.
16. Click **Next**.
17. Review the information you supplied and click **Finish**.

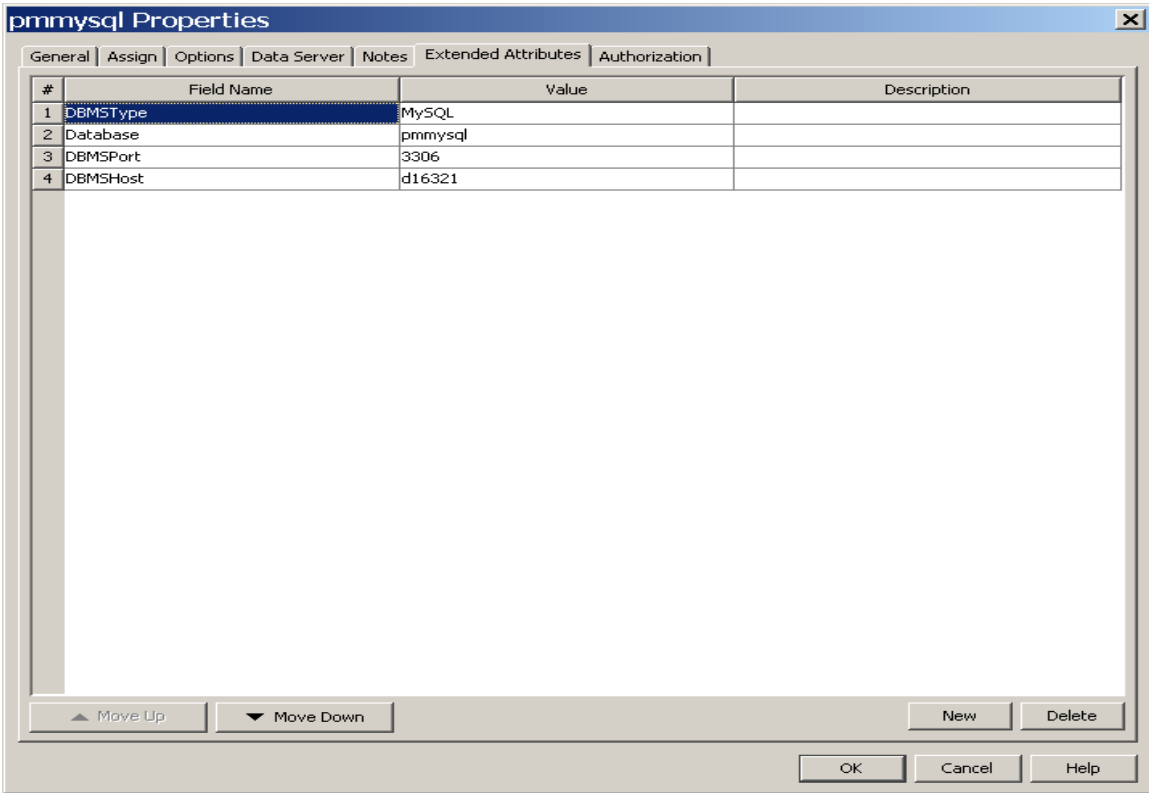
Enter Extended Attributes for the Database Library

1. Select the **Plug-ins** tab.
2. Select **Foundation** repository.
3. Expand **Data Library Manager** and **Libraries** directories.
4. Select the **SQL Server library** and look at its properties.
5. Select the **Extended Attributes** tab.
6. Click **New** four times. This should give you four extended attributes.
7. Enter the following into the first attribute:
Field Name = **DBMSType** , Value = **MySQL**
8. Enter the following into the second attribute:
Field Name = **DBMSPort**, Value = **3306**
9. Enter the following into the third attribute:

Field Name = **Database**, Value = <the name of the database in the RDBMS>

10. Enter the following into the fourth attribute:

Field Name = **DBMSHost** , Value = <Enter name of the MySQL Server machine>



Oracle 11g Server

You need to install the Oracle 11g Client tools and the Oracle 11g JDBC driver, jdbc14.jar, on all the client machines. The client tools can be installed from your Oracle 11g server and you can download JDBC driver from the Oracle Web at <http://www.oracle.com>.

Place the Oracle JDBC driver in your JRE extension directory at ... \JRE\lib\ext on all the client machines. If you have more than one Java installed you need to put it in the Java that is in your path.

Creating Environmental Variable

You need to create an environmental variable ORACLE_HOME to point to the client tools on each client machine. For example follow these steps if you installed the client tools at C:\Program Files\Oracle 11g Client tools.

1. Bring up the System Property via **Start**→**Control Panel**→**System**.
2. Open the **Advanced Tab** and click **Environment Variables**.
3. Under **System Variables**, highlight **ORACLE_HOME** and click **Edit**. If **ORACLE_HOME** does not exist, click **New**. Enter the path to the client tools, normally C:\Program Files\Oracle 11g Client tools.

4. Click **OK** for each of the windows opened.

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

After the database and user ID have been created in the RDMS, you need to register the RDMS in the SAS Management Console if it is not already registered as a Server. Start the Console from any windows machine and perform the steps below.

Registering the Oracle Server

1. Open the SAS Management Console with user ID, <SAS Administrator User>.Select the **Plug-ins** tab.
2. Select the **Foundation** repository.
3. Expand **Environment Management**.
4. Right mouse on the **Server Manager** and select **New Server**.
5. Select **Oracle Server** and press **Next**.
6. Enter a name for the server and press **Next**.
7. Select the associated machine where the database resides. If there is not a host defined click the **New** button to add it.
8. Click **Next**.
9. Enter the version of the Oracle Server.
10. Enter the fully qualified name of the machine where the Oracle Server is located. You must enclose the name with double quotes. Press **Next**.
11. For the path enter the Oracle Net Manager Net service name.
12. Create a new authentication domain for Oracle Server by clicking the **New** button and adding a domain name.
13. Click **Next**.
14. Review the information you supplied and click **Finish**.

Granting Access to PM Users

We will give the Profitability Management Users metadata group access to the Oracle Server so that all users in the group have access to it.

1. Open the SAS Management Console with user ID, <SAS Administrator User>..
2. Select the **Plug-ins** tab.
3. Select **Foundation** repository.
4. Expand **Environment Management**.
5. Select the **Profitability Management Users** group and look at its properties.
6. Select the **Accounts** tab.
7. Click the **New** button.

8. Supply the **user ID** and **password** that you set up in the database
9. Select the **Authentication Domain** that you set up in SAS Management Console when the Oracle Server was registered.
10. Click **OK** to the new account.
11. Click **OK** to change the properties of <PM user group>.

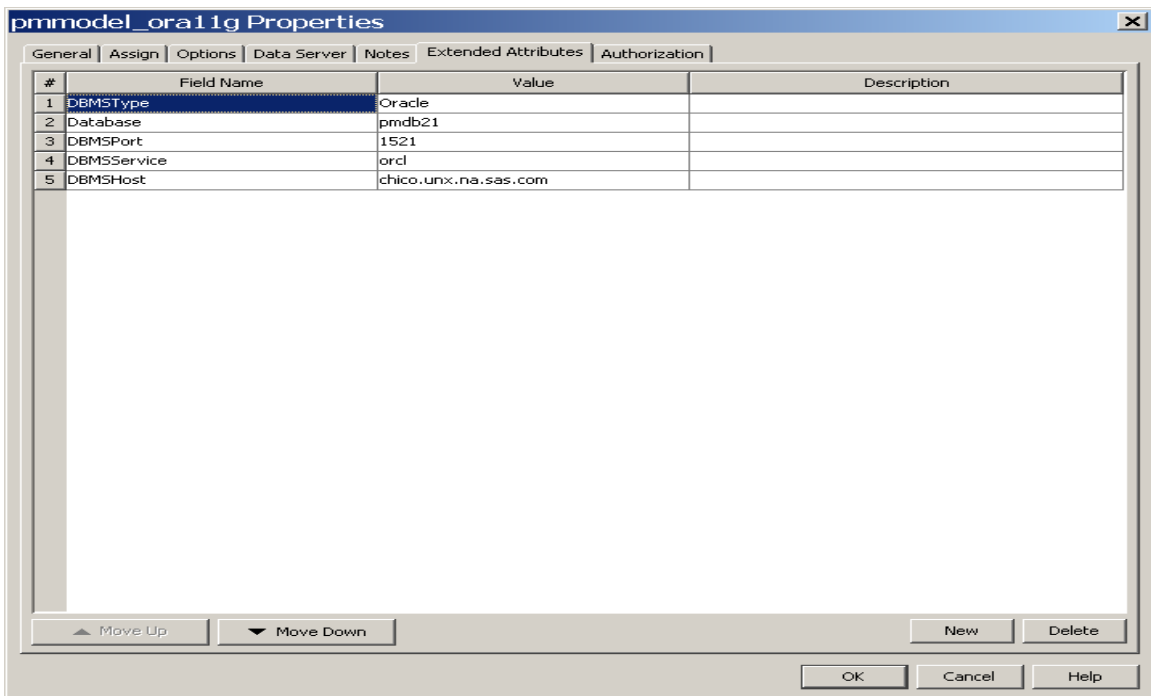
Create a SAS Management Data Library

1. Open the SAS Management Console with user ID, <SAS Administrator User>.
2. Select the **Plug-ins** tab.
3. Select **Foundation** repository.
4. Expand **Environment Management**.
5. Expand **Data Library Manager**.
6. Right mouse on **Libraries** under the Data Library Manager and click **New Library**.
7. Select **Oracle Library** and press **Next**.
8. Enter a name for the library.
9. Make sure that the folder location is
/System/Applications/SAS Profitability Management/Profitability Mgmt 2.1.
10. Click **Next**.
11. Select the Application server from the list of available servers and move it to the list of selected servers. The name is usually **SASApp**.
12. Click **Next**.
13. Enter a **libref** name of 8 characters or less and click **Next**.
14. Select the **Server** registered in the first step.
15. Pick the **Default Login** from the pull down. If the user is not shown then click on **more logins**. From this dialog you can search or view all users with this authentication domain.
16. Click **Next**.
17. Review the information you supplied and click **Finish**.

Enter Extended Attributes for the Database Library

1. Open the SAS Management Console with user ID, <SAS Administrator User>.
2. Select the **Plug-ins** tab.
3. Select **Foundation** repository.
4. Expand **Environment Management**.
5. Expand **Data Library Manager** and **Libraries** directories.
6. Select the **Oracle library** and look at its properties.

7. Select the **Extended Attributes** tab.
8. Click **New** five times. This should give you five extended attributes.
9. Enter the following into the first attribute:
Field Name = **DBMSType**, Value = **Oracle**
10. Enter the following into the second attribute:
Field Name = **DBMSPort**, Value = **1521**
11. Enter the following into the third attribute:
Field Name = **Database**, Value = <the name of the database in the RDBMS>.
12. Enter the following into the fourth attribute:
Field Name = **DBMS**, Value=<Oracle net manager for net services name>.
13. Enter the following into the fifth attribute:
Field Name = **DBMSHost**, Value = <Enter name of the Oracle Server machine>.





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