Installation Instructions for Release 5.2 of the SAS® Performance Management Solutions

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Chapter 1 — Getting Started

Before you begin the installation

SAS Software Order and SAS Software Depot

Your SAS Software Order will provide you information on how to download your SAS Software Depot. Follow those instructions to download your software and create a SAS Software Depot.

QuickStart Guide

Your SAS Software Order and the SAS Download Manager instruct you to follow the steps in the *QuickStart Guide to your SAS® Electronic Software Delivery Installation for Planning Installations*.

A link to the QuickStart Guide is found in your SAS Software Depot in the `depotsummary.html` file which is located at the top level of the SAS Software Depot.

Deployment Plan and SAS 9 Pre-Installation Checklist

These solutions require you to complete a planned installation. A deployment plan is an XML-based description of the topology for your SAS system. The plan file describes the intended final SAS software environment. The plan file is used in the SAS software deployment process to tell the SAS Deployment Wizard which software components to install and configure on each machine.

A deployment plan will be generated and provided for each deployment. There are sample plans for complex deployments in the SAS Planning Application. The SAS Planning Application can only be used by SAS representatives. You must log in with a valid sas.com email address before accessing the Planning Application 2.0. More information about the planning application and sample plans is found in the SAS Planning Application, `http://support.sas.com/planning`.

Data-Step Batch Server

When you select data tier products in the SAS Planning Application, be sure component Data-Step Batch Server is selected. These products include Base SAS 9.21:

- SAS Financial Management Server 5.2
- SAS Human Capital Management-Data Server 5.2
- SAS Strategy Management Server 5.2

Confirm that the *Include SAS DATA Step Batch Server 9.2?* checkbox is checked.

Pre-Installation Checklist

The *SAS 9 Pre-Installation Checklist* document is found in the same directory as the plan file. The filename is `checklist.pdf or checklist.rtf`. The *SAS 9 Pre-Installation Checklist* document will explain what users, groups and third party software are needed on each tier of the deployment. In these instructions, pre-installation checklist refers to this customized document.

Migration Guide

If you have already installed SAS Financial Management 4.4/4.4.1 SAS Strategic Performance Management 2.4/2.4.1 and/or SAS Human Capital Management 4.4/4.4.1 and want to maintain data, please refer to the *SAS Performance Management Solutions: 9.1.3 to 9.2 Migration Guide*.

Chapter 2 — Pre-Installation Steps

Steps to Perform Before You Install SAS Software

For more information of these steps see the pre-install checklist and the *SAS 9.2 Intelligence Platform Installation and Configuration Guide*:

> http://www.support.sas.com/92administration

Operating System Users and Groups

Create the users and groups that are specified in the pre-install checklist for each tier of your installation.

Third Party Software and System Requirements

The "QuickStart Guide" contains a link to the System Requirements on SAS Install Center. Review the System Requirements of the products that you will install. Install the required third party products. Solutions specific system requirements can be found here:

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

Human Capital Management: http://support.sas.com/documentation/onlinedoc/hcm/index.html

Strategy Management: http://support.sas.com/documentation/onlinedoc/stm/index.html

MySQL Database Server Components

The pre-install checklist provides the location of the installation instructions for MySQL in your SAS Software Depot in the
`third_party\MySQL_Database_Server\5_0_86\`*Platform*`\readme.pdf` file.

The most up-to-date version of this document, "MySQL Database Server Installation Guide for SAS Financial Management, SAS Human Capital Management, and SAS Strategy Management" is located in http://support.sas.com/documentation/index.html under each solution's section.

Note: *If you are upgrading from SAS Financial Management, SAS Human Capital Management or SAS Strategy Management 5.1, then you do not need to upgrade to MySQL 5.0.86.*

Linux Note: *Please refer to SAS Note 43950 (http://support.sas.com/kb/SASNote43950) for instructions on downloading MySQL 5.0.86 in zipped tar file format for Linux. Do not use the .rpm files on the third party media. SAS Note 43951 (http://support.sas.com/kb/SASNote4395) will also give instructions on how to update a configuration file for MySQL. Please follow these important instructions for a successful installation.*

Java Development Kit

The Java Development Kit requirements for SAS 9.2 in general are found here:
http://support.sas.com/resources/thirdpartysupport/v92m3/jdks.html. Be sure to get the JDK that matches your Web application server.

Note: *Oracle WebLogic Server 10.3gR3 requires the Sun JDK version 1.6.0 with a required update level. See the Third Party documentation above for the update level.*

Note: *IBM WebSphere installs the corresponding JDK with their application server install.*

On Windows platforms, create a JAVA_HOME environment variable and add `%JAVA_HOME%\bin` to your PATH variable.

On UNIX platforms, create a JAVA_HOME environment variable and prepend $JAVA_HOME/bin to your PATH environment variable. JAVA_HOME and PATH environment variables should be persisted in your UNIX shell.

Using the following command to validate the path of your SAS Installer user:

```
java -version
```

Note: *IBM WebSphere set the JAVA_HOME and PATH environment variables after you install WebSphere. Verify with "which" or "whence" that you are getting java from the AppServer/java folder.*

WebLogic Application Server

These solutions support Oracle WebLogic Server 10g Release 3 (10.3.0)

Note: *These solutions do not support JBoss.*
These solutions do not support any higher version of Oracle WebLogic.
These solutions do not support Oracle WebLogic on AIX or Linux.
WebLogic is not supported on Windows Server 2008, Standard x64 Edition, R2 operating system.

Install your Web Application server using the documentation and system requirements found here: http://support.sas.com/resources/thirdpartysupport/v92m3/appservers/weblogicsw.html

If you have received Oracle WebLogic from SAS, WebLogic 10.3 will be found in the SAS Software Depot under `third_party\WebLogic\10_3`. Please see the `readme.pdf` file in this location for information about installing the WebLogic software and applying the required patches.

In addition, to apply the patches successfully, you need to refer to the SAS Installation Note 39910 "OEM Weblogic install scripts fail to correctly apply patches" http://support.sas.com/kb/39/910.html.

Another issue with the WebLogic installation is documented in SAS Installation Note 38566 "The Oracle WebLogic 10.3 installer fails when you run it from a network location that is specified as a universal naming convention (UNC) path" http://support.sas.com/kb/38/566.html.

Apply all of the patches referenced for the Web Application server. Follow any post-installation steps for your platform documented on the site above.

WebSphere Application Server Network Deployment

These solutions support IBM WebSphere Application Server Network Deployment Release 6.1 and Version 7.0.

Note: *These solutions do not support JBoss.*

Install your Web Application server using the documentation and system requirements found here: http://support.sas.com/resources/thirdpartysupport/v92m3/appservers/webspheresw.html

If you have received IBM WebSphere from SAS, WebSphere 6.1 will be found in the SAS Software Depot under `third_party\WebSphere\6_1.` Please see the `readme.pdf` file in this location for information about installing the WebSphere software and applying the required patches.

If you require IBM WebSphere 7.0, please contact IBM directly.

For either version, apply all of the patches referenced for the Web Application server. Follow any post-installation steps for your platform documented on the site above.

Junit Jar

Download the Junit jar version 4.0 and 4.5 from this Web site:
http://sourceforge.net/projects/junit/files/junit/

Note: *The SAS Deployment Tester requires Junit 4.0 and SAS Human Capital Management requires Junit 4.5. The SAS Deployment Wizard will prompt you for the location of Junit 4.0. There are post-installation instructions for completing the configuration of SAS Human Capital Management.*

UNIX Hostname

The hostname command should return the fully qualified hostname for your servers. Verify this by issuing the hostname command:

```
% hostname
yourhost.yourdomain.com
```

If your site requires a shortened form of the hostname, then be sure to consistently use that name throughout your configuration steps.

Chapter 3 — Install and Configure SAS Software

SAS Deployment Wizard

Adding SAS Performance Management Solutions to an Existing SAS 9.2 Intelligence Platform Deployment

Follow the steps outlined in *SAS 9.2 Intelligence Platform Installation and Configuration Guide* "Appendix 2, Managing your SAS Deployment: Configuring or Adding SAS Products," which can be found in these two locations:

`http://support.sas.com/documentation/cdl/en/biig/60946/PDF/default/biig.pdf`

or

`http://support.sas.com/documentation/cdl/en/biig/60946/HTML/default/config.htm`

If the current deployment's Web application server is not the required version for these solutions, or the deployment has been configured with only a single managed server, the Web application server must be temporarily removed from your deployment. Follow these steps:

1. Use the instructions in *SAS 9.2 Intelligence Platform Installation and Configuration Guide* "Appendix 2: Removing a SAS Configuration."

2. During the add-on of the Performance Management Solutions, redeploy the Web application server at the required version and configuration along with *all* of your Web applications.

For solution-specific information, refer to the sections below that match your server deployment. If you are adding to a SAS 9.2 platform system released before Maintenance 2, please see Chapter 5 for additional instructions.

For **Unix** data tier installation that is an addon to an existing SAS Foundation, please follow these important steps:

1. Run the Software Deployment Wizard and check Install only.

2. When the installation is complete, configure SAS/Access for MySQL Use the following procedure to correctly set up a symbolic link to the 5.0 version of `sasmyl`:

    A. Run `SAS Setup` from `!SASROOT/sassetup`. Make sure you have the appropriate privilege to update files in `!SASROOT`.
    B. From the **SAS Setup Primary Menu**, select `Run Setup Utilities`.
    C. Select `Perform Product-Specific Configuration`.
    D. Select `SAS/ACCESS Configuration`.
    E. Select the `SAS/ACCESS Interface to MySQL` from the selection window. Select 5.0.
    F. SAS Setup will setup the symbolic link.

3. Rerun the Software Deployment Wizard and check Configure only.

Quickstart Guide

The *QuickStart Guide* explains how to launch the SAS Deployment Wizard. Prompts and windows that apply only to these solutions are documented in this reference. Use the SAS Deployment Wizard help screens and SAS 9.2 Intelligence Platform documentation to guide you as needed.

Installation on 2-Tiers (Data Tier/Mid-Tier and Client Tier)

Refer to the *SAS 9.2 Intelligence Platform Installation and Configuration Guide* for more detailed information about the installation:
    http://www.support.sas.com/92administration

Client Tier

Refer to "Chapter 7 — Installing Client Applications" for installation of the client software.

Before You Begin the Data Tier and Mid-Tier on a Single Server

Verify External Users and Groups

1. Verify that the following users have been created on the data tier as instructed in the pre-install checklist.

	Windows	**UNIX**
SAS Installer	mydomain\installer-ID	sas
SAS Spawned Servers account	mydomain\sassrv	sassrv
SAS First User	mydomain\sasdemo	sasdemo
Solutions Host User	mydomain\sassln	sassln
SAS Server Users group	SAS Server Users	sas

    *   On Windows, the SAS Installer account should be available in the long term for future SAS maintenance.
    *   On AIX, make sure that the "**User can LOGIN?**" setting is set to true for the SAS Installer ID.
    *   On UNIX, do not use *root* as the SAS Installer account.

2. Follow the instruction for your platform:
    *   On Windows, verify that SAS Server Users group has the user right "Log on as a batch job." The SAS Spawned Servers Account (sassrv) and the Solutions Host User (sassln) can be added to this group to obtain this right or it can be assigned by the SAS Deployment Wizard.
    *   On UNIX, verify that the SAS Spawned Servers account is a member of a group that is the primary group for the SAS Installer account.
    *   On UNIX, verify that the SAS Installer account is a member of a group that is the primary group for the SAS Spawned Servers account.

Verify Third Party Products

1. Verify that the following third party products are installed:
    *   Oracle WebLogic Server 10.3gR3 (10.3.0)
        or

        IBM WebSphere Application Server Network Deployment 6.1 or V7.0
    *   Sun Java Development Kit 6 with required update level (WebLogic only)
    *   MySQL Enterprise Database Server 5.0.86
    *   MySQL Connector J 5.0.8

- MySQL Database Runtime Library 5.0.86 (Windows only)

- Junit 4.0

- Junit 4.5 – required if installing SAS Human Capital Management

- Internet Explorer 7 or Internet Explorer 8 (Windows)

2. Verify that the correct Java Development Kit for WebLogic or WebSphere with the required update level is in your path and that the JAVA_HOME environment variable is set to that version of the JDK.

3. On Windows, if the Web Application server is WebLogic, stop the Oracle Weblogic NodeManager service before configuring your software.

```
net stop "Oracle Weblogic NodeManager (C_bea_wlserver_10.3)"
The Oracle WebLogic NodeManager (C_bea_wlserver_10.3) service is
stopping.
The Oracle WebLogic NodeManager (C_bea_wlserver_10.3) service was
stopped successfully.
net start
```

Software Deployment Wizard for Data Tier and Mid-Tier on a Single Server

1. On the **Select Products to Install** dialog, select "Server and Middle Tier" as the machine.

2. On Windows, at the **Specify SAS PC Files Server Options** dialog, check "Start Service Now and Automatically when Windows Starts."

3. After the **Review Required Software** dialog, you will be prompted for third-party software. The default locations are below. Refer to the notes you made on your pre-installation checklist to find the locations you chose if they are not the default locations.

- **MySQL Connector_J Configuration 5.0.8:**

    Windows: `C:\Program Files\SAS\MySQLConnectorJ`

    UNIX: `/usr/local/SAS/MySQLConnectorJ`

- **MySQL Database Runtime Library Configuration 5.0.86:**

    Windows only: `C:\mysql\bin`

- **MySQL Database Server Configuration 5.0.86:**

    Windows: `C:\mysql`

    UNIX: `/usr/local/mysql`

- **BEA WebLogic Server 9.2:**

    Windows: `C:\bea\wlserver_10.3`

    UNIX: `/usr/bea/wlserver_10.3`

    Note: *The system requirement is for Oracle WebLogic Server 10.3.0. WebLogic 9.2 is not supported for these solutions.*

    or

- **IBM WebSphere Application Server 6.1:**

    Windows: `C:\Program Files\IBM\WebSphere\AppServer`

    UNIX: `/usr/IBM/WebSphere\AppServer`

    Note: *The system requirement is for IBM WebSphere Network Deployment 6.1 or 7.0.*

- **Java Development Kit JAVA 5 UPDATE 15: (WebLogic only)**

  Windows: `C:\Program Files\Java\jdk1.6.0_XX`

  UNIX: `/usr/jdk/jdk1.60._XX`

  Note: *WebLogic 10.3 requires Java Development Kit 1.6.0 with an update level. Click "Yes" at the warning dialog.*

4. Select *Typical* in the **Select Configuration Prompting Level** dialog.

    Note: If you select "Custom" for the prompting level, do not check the checkbox to **Secure JMS Resources** in the dialog **Web Application Server: Secure JMS Resources**.

5. When prompted for the **SAS Internal Account: Solutions Administrator**, enter a password for the `slnadm` user. This is not an operating system user.

6. If prompted for a **SAS Application Server Context**, select the default which is **SASApp**. If you are performing a migration, select **SASMain**.

7. **SAS OLAP Data and Compute Server: Deployment Instance Name** dialog; leave this blank or enter a unique instance name. If you have more than one ODCS server in your deployment then you must enter a unique name such as the short hostname of the server.

8. For the solution-specific dialogs listed below, the following information supplements the help screens:

    A. **MySQL Database Host** dialog; accept the defaults or enter the location and port of the MySQL server.

    B. **MySQL Database** dialog:

        Deployment Instance Name: Leave this blank or enter a unique instance name. If you have more than one MySQL server in your deployment then you must enter a unique name such as the short hostname of the server.

        Solaris Linker Path: On Solaris only, print the value of your `LD_LIBRARY_PATH` environment variable, such as:

        ```
        echo $LD_LIBRARY_PATH
        /usr/lib/sparcv9:/usr/ucblib/sparcv9:/usr/local/mysql/lib:/
        usr/local/SAS/libmysql
        ```

        Copy this into the Solaris Linker Path dialog box. This must include the lib directory of your MYSQL installation.

        SAS/Access to MySQL Directory: On UNIX, enter the location where you want the shared object library stored. The default is `/usr/local/SAS/libmysql`.

    C. **SAS Solutions Services Mid-Tier: ODCS** dialog; accept the default or enter the host name and port number of your ODCS server. The default WebLogic port is 7301. If the ODCS server is on the same machine as the SAS Solutions Server this is *SASServer4*.

    D. **MySQL / SASOP database Installation** dialog; enter the host name and port number of your MySQL server. This is typically your data tier server and the default port is *3306*.

    E. **SAS OLAP Data and Compute Server: Installation** dialog; specify that this is the primary ODCS server.

    F. **External Account: Solutions Host User** dialog; enter the user that you defined for access to SAS Datasets by JDBC. The default user name is `sassln`.

G. **Database Account: Database Administrator** dialog; the default user name is `sqladmin`. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL database server.

H. **Database Account: SASSDM Database Administrator** dialog; the default database account identity is *sasdmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL SASSDM database.

I. **Database Account: SPM Database Administrator** dialog; the default database account identity is *spmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL SPM database.

J. **Database Account: HCM Database Administrator** dialog; the default database account identity is *hcmdmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL HCM database.

K. **Database Type dialog;** change the default database from SAS Table Server to MySQL.

L. In the **SAS Shared Services Database Properties** dialog, select *MySQL database server*.

M. In the **SAS Shared Services JDBC Properties** dialog, enter the password for the `sqladmin` database user and the path to `MySQL Connector/J`.

N. **SAS Financial Management Web Data Entry: Deployment Instance Name** dialog; leave this blank or enter a unique instance name. If you have more than one WDE server in your deployment then you must enter a unique name such as the short hostname of the server.

9. At the Deployment Summary dialog, press **Start**.

10. On **UNIX**, when you are installing the server tier, you will be prompted to enter the root password at an **Insufficient Permissions** dialog. As the message in the installation program explains, certain SAS products and features use functionality that requires SAS to check user ID authentication and file access authorizations. This in turn necessitates that certain files within your SAS installation have `setuid` permissions and be owned by root. **Do not click Retry or Continue until you finish configuring MySQL.**

On **UNIX**, configure SAS/Access for MySQL Use the following procedure to correctly set up a symbolic link to the 5.0 version of `sasmyl`:

A. Run `SAS Setup` from `!SASROOT/sassetup`. Make sure you have the appropriate privilege to update files in `!SASROOT`.

B. From the **SAS Setup Primary Menu**, select `Run Setup Utilities`.

C. Select `Perform Product-Specific Configuration`.

D. Select `SAS/ACCESS Configuration`.

E. Select the `SAS/ACCESS Interface to MySQL` from the selection window. Select 5.0.

F. SAS Setup will setup the symbolic link.

G. Select 'Y' when prompted to exit sassetup.

On **Linux**, Be sure you have followed the instructions in http://support.sas.com/kb/SASNote43951 to download and replace mysqldbs_config.xml.

> **Continue with the installation by clicking Retry or Continue in the Insufficient Permissions dialog.**

Installation on 3-Tiers (Data Tier, Mid-Tier and Client Tier)

Refer to the *SAS 9.2 Intelligence Platform Installation and Configuration Guide* for more detailed information the installation: http://www.support.sas.com/92administration

Client Tier

Refer to "Chapter 7 — Installing Client Applications" for installation of the client software.

Before You Begin the Data Tier

Verify External Users and Groups

1. Verify that the following users have been created on the data tier as instructed in the pre-install checklist.

	Windows	**UNIX**
SAS Installer	mydomain\installer-ID	sas
SAS Spawned Servers account	mydomain\sassrv	sassrv
SAS First User	mydomain\sasdemo	sasdemo
Solutions Host User	mydomain\sassln	sassln
SAS Server Users group	SAS Server Users	sas

   - On Windows, the SAS Installer account should be available in the long term for future SAS maintenance.
   - On AIX, make sure that the **User can LOGIN?** setting is set to **true** for the SAS Installer ID.
   - On UNIX, do not use *root* as the SAS Installer account.

2. Follow the instruction for your platform:

   - On Windows, verify that SAS Server Users group has the user right "Log on as a batch job." The SAS Spawned Servers Account (sassrv) and the Solutions Host User (sassln) can be added to this group to obtain this right or it can be assigned by the SAS Deployment Wizard.
   - On UNIX, verify that the SAS Spawned Servers account is a member of a group that is the primary group for the SAS Installer account.
   - On UNIX, verify that the SAS Installer account is a member of a group that is the primary group for the SAS Spawned Servers account.

Verify Third Party Products

1. Verify that the following third party products are installed:

   - MySQL Database Server 5.0.86
   - MySQL Connector J 5.0.8
   - MySQL Database Runtime Library 5.0.86 (Windows only)

- Junit 4.0
- Junit 4.5 – required if installing SAS Human Capital Management
- Internet Explorer 7 or Internet Explorer 8 (Windows)

Software Deployment Wizard for Data Tier

1. Select *Server* as the machine in the **"Select Products to Install"** dialog.

2. On Windows, at the **Specify SAS PC Files Server Options** dialog, check "Start Service Now and Automatically when Windows Starts."

3. After the **Review Required Software** dialog, you will be prompted for third-party software. The default locations are below. If the locations you chose were not the default locations, refer to the notes you made on your pre-installation checklist.

   - **MySQL Connector_J Configuration 5.0.8:**

     Windows: `C:\Program Files\SAS\MySQLConnectorJ`
     UNIX: `/usr/local/SAS/MySQLConnectorJ`

   - **MySQL Database Runtime Library Configuration 5.0.86:**

     Windows only: `C:\mysql\bin`

   - **MySQL Database Server Configuration 5.0.86:**

     Windows: `C:\mysql`
     UNIX: `/usr/local/mysql`

4. Specify *Typical* in the **Select Configuration Prompting Level** dialog. If the default values are appropriate for your site, you can accept many of the SAS Deployment Wizard dialogs as they are presented. Noted below are changes that need to be made.

5. When you are prompted for the **"SAS Internal Account: Solutions Administrator,"** enter a password for the `slnadm` user. This is not an external system user.

6. For the solution-specific dialogs listed below, the following information supplements the help screens:

   A. **MySQL Database Host** dialog; accept the defaults or enter the location and port of the MySQL server.

   B. **MySQL Database** dialog;

      Deployment Instance Name: Leave this blank or enter a unique instance name. If you have more than one MySQL server in your deployment then you must enter a unique name such as the short hostname of the server.

      Solaris Linker Path: On Solaris only, print the value of your `LD_LIBRARY_PATH` environment variable, such as:

      ```
      echo $LD_LIBRARY_PATH
      /usr/lib/sparcv9:/usr/ucblib/sparcv9:/usr/local/mysql/lib:/
      usr/local/SAS/libmysql
      ```

      Copy this into the **Solaris Linker Path** dialog box. This must include the lib directory of your MYSQL installation.

      SAS/Access to MySQL Directory: On UNIX, enter where you want the shared object library stored. The default is `/usr/local/SAS/libmysql.`

C. **"External Account: Solutions Host User"** dialog; enter the user that you defined for access to SAS Datasets by JDBC. The default user name is sassln.

D. **"Database Account: Database Administrator"** dialog; the default user name is *sqladmin*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL database server.

E. **"Database Account: SASSDM Database Administrator"** dialog; the default database account identity is *sasdmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL SASSDM database.

F. **"Database Account: SPM Database Administrator"** dialog; the default database account identity is *spmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL SPM database.

G. **"Database Account: HCM Database Administrator"** dialog; the default database account identity is *hcmdmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL HCM database.

7. At the **Deployment Summary** dialog press **Start.**

8. On **UNIX**, when you are installing the server tier, you will be prompted enter the root password at an **Insufficient Permissions** dialog. As the message in the installation program explains, certain SAS products and features use functionality that requires SAS to check user ID authentication and file access authorizations. This in turn necessitates that certain files within your SAS installation have setuid permissions and be owned by root. **Do not click Retry or Continue until you finish configuring MySQL.**

On **UNIX**, configure SAS/Access for MySQL Use the following procedure to correctly set up a symbolic link to the 5.0 version of sasmyl:

A. Run SAS Setup from !SASROOT/sassetup. Make sure you have the appropriate privilege to update files in !SASROOT.

B. Select Run Setup Utilities from the **SAS Setup Primary Menu**.

C. Select Perform Product-Specific Configuration.

D. Select SAS/ACCESS Configuration.

E. Select the SAS/ACCESS Interface to MySQL from the selection window. Select *5.0*.

F. SAS Setup will setup the symbolic link.

G. Select 'Y' when prompted to exit sassetup.

On **Linux**, Be sure you have followed the instructions in http://support.sas.com/kb/SASNote43951 to download and replace mysqldbs_config.xml.

Continue with the installation by clicking Retry or Continue in the Insufficient Permissions dialog.

Before You Begin the Mid-Tier

Verify Third Party Products

1. Verify that the following third party products are installed:

- Oracle WebLogic Server 10.3.0

  or

- IBM WebSphere Application Server Network Deployment Release 6.1 or V7.0

- Sun Java Development Kit 6 with required update level (WebLogic only)

- MySQL Connector J 5.0.8

- Junit 4.5 – required if installing SAS Human Capital Management

- Internet Explorer 7 or Internet Explorer 8

2. Verify that the correct Java Development Kit for WebLogic or WebSphere with the required update level is in your path and that the `JAVA_HOME` environment variable is set to that version of the JDK.

3. On Windows, if the Web Application server is WebLogic, stop the Oracle Weblogic NodeManager service before configuring your software.

```
net stop "Oracle Weblogic NodeManager (C_bea_wlserver_10.3)"
The Oracle WebLogic NodeManager (C_bea_wlserver_10.3) service
is stopping.
The Oracle WebLogic NodeManager (C_bea_wlserver_10.3) service
was stopped successfully.
net start
```

Software Deployment Wizard for Mid-Tier

1. In the **Select Products to Install** dialog, select "Middle Tier" as the machine.

2. After the **Review Required Software** dialog, you will be prompted for third-party software. The default locations are below. If the locations you chose were not the default locations, refer to the notes you made on your pre-installation checklist.

   - **MySQL Connector_J Configuration 5.0.8:**

     Windows: `C:\Program Files\SAS\MySQLConnectorJ`

     UNIX: `/usr/local/SAS/MySQLConnectorJ`

   - **BEA WebLogic Server 9.2:**

     Windows: `C:\bea\wlserver_10.3`
     UNIX: `/usr/bea/wlserver_10.3`

   Note: *The system requirement is for Oracle WebLogic Server 10.3.0. WebLogic 9.2 is not supported for these solutions.*

     or

   - **IBM WebSphere Application Server 6.1:**

     Windows: `C:\program Files\IBM\WebSphere\AppServer`
     UNIX: `/usr/IBM/WebSphere\AppServer`

   Note: *The system requirement is for IBM WebSphere Network Deployment 6.1 or 7.0.*

   - **Java Development Kit JAVA 5 UPDATE 15: (WebLogic only)**

     Windows: `C:\Program Files\Java\jdk1.6.0_XX`
     UNIX: `/usr/jdk/jdk1.60._XX`

   Note: *WebLogic 10.3 requires Java Development Kit 1.6.0 with an update level. Click "Yes" at the warning dialog.*

3. Specify *Typical* in the **Select Configuration Prompting Level** dialog. If the default values are appropriate for your site, you can accept many of the SAS Deployment Wizard dialogs as they are presented. Noted below are changes that need to be made.

   Note: If you select "Custom" for the prompting level, do not check the checkbox to **Secure JMS Resources** in the dialog **Web Application Server: Secure JMS Resources**.

4. In the **SAS Metadata Server** dialog, enter or change the server name to the fully qualified hostname of the data tier server**.**

5. When prompted for the **SAS Internal Account: Solutions Administrator,** enter a password for the `slnadm` user. This is not an operating system user.

6. In the **SAS BI Dashboard Dependencies** dialog; verify that the **"SAS Application Server Context"** is *SASApp***.** If you are performing a migration, select *SASMain*.

7. For the solution-specific dialogs listed below, the following information supplements the help screens:

   A. **SAS OLAP Data and Compute Server: Deployment Instance Name** dialog; leave this blank or enter a unique instance name. If you have more than one ODCS server in your deployment then you must enter a unique name such as the short hostname of the server.

   B. **SAS Solutions Services Mid-Tier: ODCS** dialog; accept the default or enter the host name and port number of your ODCS server. The default WebLogic port is *7301*. If the ODCS server is on the same machine as the SAS Solutions Server this is `SASServer4`.

   C. **MySQL / SASOP database Installation** dialog; enter the host name and port number of your MySQL server. This is typically your data tier server and the default port is *3306*. If SAS Operational Planning data tier is on a separate server, then enter that hostname and port.

   D. **SAS OLAP Data and Compute Server: Installation** dialog; specify that this is the primary ODCS server.

   E. In the **SAS Human Capital Management Mid-Tier Dependencies** dialog, verify that the **SAS Application Server Context** is *SASApp***.** If you are performing a migration, set it to *SASMain*.

   F. **External Account: Solutions Host User** dialog; enter the user that you defined for access to SAS Datasets by JDBC. The default user name is *sassln*. This external user is typically local to the data tier server.

   G. **Database Account: Database Administrator** dialog; the default user name is *sqladmin*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL database server.

   H. **Database Account: SASSDM Database Administrator** dialog; the default database account identity is *sasdmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL SASSDM database.

   I. **Database Account: SPM Database Administrator** dialog; the default database account identity is *spmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL SPM database.

J. **Database Account: HCM Database Administrator** dialog; the default database account identity is *hcmdmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL HCM database.

K. **Database Type** dialog; change the default database from **SAS Table Server** to **MySQL**.

L. In the **SAS Shared Services Database Properties** dialog, select *MySQL database server on the data tier server*.

M. In the **SAS Shared Services JDBC Properties** dialog, enter the password for the `sqladmin` database user and the path to `MySQL Connector/J`.

N. **SAS Financial Management Web Data Entry: Deployment Instance Name;** if there is only one instance of the Web application configured, leave the name blank. Otherwise, enter a unique instance name such as the short hostname of the Mid-Tier server.

8. At the **Deployment Summary** dialog, press **Start**.

Installation of SAS Financial Management on 5-Tiers (Data Tier, Mid-Tier, ODCS Secondary, Operation Planning Data Tier and Client Tier)

Refer to the *SAS 9.2 Intelligence Platform Installation and Configuration Guide* for more detailed information about the installation: http://www.support.sas.com/92administration

Client Tier

For installation of the client software, refer to "Chapter 7 — Installing Client Applications" on page 29.

Deployment of the Data Tier

Follow the instructions in the Data Tier section "Installation on 3-Tiers (Data Tier, Mid-Tier and Client Tier)" on page 10.

Deployment of the Operation Planning Data Tier

Before You Begin the Operational Planning Data Tier, Verify Third Party Products

Verify that the following third party products are installed:

- MySQL Database Server 5.0.86
- MySQL Database Runtime Library 5.0.86
- Internet Explorer 7 or Internet Explorer 8 (Windows)

Software Deployment Wizard for the Operational Planning Data Tier

1. Select "Operation Planning Data Tier" as the machine on the **Select Products to Install** dialog.

2. After the **Review Required Software** dialog, you will be prompted for third-party software. The default locations are below. If the locations you chose were not the default locations, refer to the notes you made on your pre-installation checklist.

- **MySQL Connector_J Configuration 5.0.8:**

  Windows: `C:\Program Files\SAS\MySQLConnectorJ`

> UNIX: `/usr/local/SAS/MySQLConnectorJ`

- **MySQL Database Server Configuration 5.0.86:**

  Windows: `C:\mysql`

  UNIX: `/usr/local/mysql`

3. Specify *Typical* in the **Select Configuration Prompting Level** dialog. If the default values are appropriate for your site, you can accept many of the SAS Deployment Wizard dialogs as they are presented. Noted below are changes that need to be made.

4. When prompted for the **"SAS Metadata Server,"** enter the fully qualified hostname and port of the SAS Metadata Server. This is typically your data-tier server. The default port is *8561*.

5. For the following solution-specific dialogs, the associated information supplements the help screens:

   A. **MySQL Database Host** dialog; enter the hostname and MySQL port of this server. The default port is *3306*.

   B. **MySQL Database** dialog
   Deployment Instance Name: enter the short name of this server for the deployment instance.
   Solaris Linker Path: On Solaris only, print the value of your `LD_LIBRARY_PATH` environment variable, such as:
   ```
   echo $LD_LIBRARY_PATH
   /usr/lib/sparcv9:/usr/ucblib/sparcv9:/usr/local/mysql/lib:/
   usr/local/SAS/libmysql
   ```
   Copy this into the Solaris Linker Path dialog box. This must include the lib directory of your MYSQL installation.

   SAS/Access to MySQL Directory: On UNIX, enter the location you want the shared object library stored. The default is `/usr/local/SAS/libmysql`.

   C. **Database Account: Database Administrator** dialog; the default user name is *sqladmin*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL database server.

   D. **Database Account: SASSDM Database Administrator** dialog; the default database account identity is *sasdmdbadm*. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL SASSDM database.

6. At the **Deployment Summary** dialog; press Start.

7. On **UNIX**, when you are installing the server tier, you will be prompted enter the root password at an **Insufficient Permissions** dialog. As the message in the installation program explains, certain SAS products and features use functionality that requires SAS to check user ID authentication and file access authorizations. This in turn necessitates that certain files within your SAS installation have setuid permissions and be owned by root. **Do not click Retry or Continue until you finish configuring MySQL.**

   On **UNIX**, configure SAS/Access for MySQL Use the following procedure to correctly set up a symbolic link to the 5.0 version of `sasmyl`:

   A. Run `SAS Setup` from `!SASROOT/sassetup`. Make sure you have the appropriate privilege to update files in `!SASROOT`.
   B. Select `Run Setup Utilities` from the `SAS Setup Primary Menu`.

C. Select `Perform Product-Specific Configuration`.
D. Select `SAS/ACCESS Configuration`.
E. Select the `SAS/ACCESS Interface to MySQL` from the selection screen. Select *5.0*.
F. SAS Setup will setup the symbolic link.
G. Select 'Y' when prompted to exit sassetup.

On **Linux**, Be sure you have followed the instructions in http://support.sas.com/kb/SASNote43951 to download and replace mysqldbs_config.xml.

Continue with the installation by clicking Retry or Continue in the Insufficient Permissions dialog.

Deployment of the Mid-Tier

Configure the Mid-Tier using the instructions in the Mid-Tier section "Installation on 3-Tiers (Data Tier, Mid-Tier and Client Tier)" on page 10 with these notes:

1. SAS OLAP Data and Compute Server will have a secondary server so make this adjustment to the 3-tier Mid-Tier instructions:

    SAS OLAP Data and Compute Server: Deployment Instance Name dialog; enter a unique instance name such as the short hostname of this server.

2. SAS Operational Planning Data Tier on a separate tier so make this adjustment to the 3-tier Mid-Tier instructions:

    MySQL / SASOP database Installation dialog; enter the host name and port number of MySQL on your SAS Operational Planning Data Tier server. The default port is *3306*.

3. SAS Financial Management Web Data Entry will have an additional deployment instance on the secondary ODCS Server.

    SAS Financial Management Web Data Entry: Deployment Instance Name dialog; enter a unique instance name such as the short hostname of this server.

Deployment of the SAS OLAP Data and Compute Server (ODCS) Secondary Mid-Tier

Before You Begin the SAS ODCS Secondary Mid-Tier, Verify Third Party Products

1. Verify that the following third party products are installed:
    *   Oracle WebLogic Server 10.3gR3 (10.3.0)
        or
        IBM WebSphere Application Server Network Deployment Release 6.1 or 7.0
    *   Sun Java Development Kit 6 with required update level (WebLogic only)
    *   MySQL Database Server 5.0.86
    *   MySQL Connector J 5.0.8
    *   Internet Explorer 7 or Internet Explorer 8 (Windows)

2. Verify that the correct Java Development Kit for WebLogic or WebSphere with the required update level is in your path and that `the JAVA_HOME` environment variable is set to that version of the JDK.

3. On Windows, if the Web Application server is WebLogic, stop the Oracle Weblogic NodeManager service before configuring your software.

```
net stop "Oracle Weblogic NodeManager (C_bea_wlserver_10.3)"
The Oracle WebLogic NodeManager (C_bea_wlserver_10.3) service is
stopping.
The Oracle WebLogic NodeManager (C_bea_wlserver_10.3) service was
stopped successfully.
net start
```

Software Deployment Wizard for the SAS ODCS Secondary Mid-Tier

1. Select "ODCS Secondary" as the machine in the **Select Products to Install** dialog.

2. After the **Review Required Software** dialog, you will be prompted for third-party software. The default locations are below. If you did not select the default locations, refer to the notes you made on your pre-installation checklist to find the locations you chose.

   - **MySQL Connector_J Configuration 5.0.8:**

        Windows: `C:\Program Files\SAS\MySQLConnectorJ`
        UNIX: `/usr/local/SAS/MySQLConnectorJ`

   - **MySQL Database Server Configuration 5.0.86:**

        Windows: `C:\mysql`
        UNIX: `/usr/local/mysql`

   - **BEA WebLogic Server 9.2:**

        Windows: `C:\bea\wlserver_10.3`
        UNIX: `/usr/bea/wlserver_10.3`

     Note: *The system requirement is for Oracle WebLogic Server 10.3.0. WebLogic 9.2 is not supported for these solutions.*

     or

     IBM WebSphere Application Server 6.1:

        Windows: `C:\Program Files\IBM\WebSphere\AppServer`
        UNIX: `/usr/IBM/WebSphere/AppServer`

     Note: *The system requirement is for IBM WebSphere Network Deployment 6.1 or 7.0.*

   - **Java Development Kit JAVA 5 UPDATE 15: (WebLogic only)**

        Windows: `C:\Program Files\Java\jdk1.6.0_XX`
        UNIX: `/usr/jdk/jdk1.60._XX`

     Note: *WebLogic 10.3 requires Java Development Kit 1.6.0 with an update level. Click "Yes" at the warning dialog.*

3. Specify **Typical** in the **Select Configuration Prompting Level** dialog. If the default values are appropriate for your site, you can accept many of the SAS Deployment Wizard dialogs as they are presented. Noted below are changes that need to be made.

   Note: If you select "Custom" for the prompting level, do not check the checkbox to **Secure JMS Resources** in the dialog **Web Application Server: Secure JMS Resources**.

4. In the **SAS Metadata Server** dialog, enter or change the server name to the fully qualified hostname of the data tier server**.**

5. When prompted for the **"SAS Internal Account: Solutions Administrator,"** enter a password for the `slnadm` user. This is not an operating system user.

6. In the **WebLogic Web Application Server: Node Manager** dialog, enter the hostname of the ODCS secondary server is being configured.

7. In the **Web Application Server: Administration Server** dialog, enter the hostname of the mid-tier server.

8. For the following solution-specific dialogs, the following information supplements the help screens:

   A. When prompted for the **"Web Application Server: Fourth Managed Server,"** enter a unique name such as *SASServer4ODCS2*.

   B. When prompted for the **"Web Application Server: Fifth Managed Server,"** enter a unique name such as *SASServer5WDE*.

   C. **MySQL Database Host** dialog; enter the hostname and port of this server. The default port is *3306*.

   D. **MySQL Database** dialog
      Deployment Instance Name: enter a unique instance name such as the short hostname of this server.
      Solaris Linker Path: On Solaris only, print the value of your `LD_LIBRARY_PATH` environment variable, such as:

      ```
      echo $LD_LIBRARY_PATH
      /usr/lib/sparcv9:/usr/ucblib/sparcv9:/usr/local/mysql/li
      b:/usr/local/SAS/libmysql
      ```

      Copy this into the Solaris Linker Path dialog box. This must include the lib directory of your MYSQL installation.
      SAS/Access to MySQL Directory: On UNIX, enter the location you want the shared object library stored. The default is `/usr/local/SAS/libmysql`.

   E. **SAS OLAP Data and Compute Server Mid Tier for Solutions Dependencies - MySQL Database server;** select the MySQL on this server.

   F. **SAS OLAP Data and Compute Server: Deployment Instance Name** dialog; enter a unique instance name such as the short hostname of this server.

   G. **SAS OLAP Data and Compute Server: Installation Type** dialog; select secondary installation.

   H. **SAS OLAP Data and Compute Server: Installation MySQL host;** enter the host and port of the primary MySQL instance. This typically is the name of the data tier server.

   I. **Database Account: Database Administrator** dialog; the default user name is `sqladmin`. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL database server.

   J. **Database Account: SASSDM Database Administrator** dialog; the default database account identity is `sasdmdbadm`. Enter a userid and password. This is not an operating system account but is used to secure and administer the MySQL SASSDM database.

   K. **SAS Financial Management Web Data Entry Dependencies - SAS OLAP Data and Compute Server Mid-Tier** dialog; select the ODCS secondary deployment

> instance name you chose above.

    L. **SAS Financial Management Web Data Entry: Deployment Instance Name** dialog; enter a unique instance name such as the short hostname of this server.

9. At the **Deployment Summary** dialog, press Start.

10. The "Configuration Guidelines and Details" file (`instructions.html`) will contain a warning which can be safely ignored:

```
SAS OLAP Data and Compute Server Mid-Tier for Solutions
encountered warnings while creating the metadata folder
/System/Applications/SAS OLAP Data and Compute Server for
Solutions.
```

Installation and Configuration Notes

Installation and Configuration Notes for the Data Tier

When SAS programs are run to register metadata, warnings like the following ones will be displayed in logs located in the `/SAS/Config/Lev1/Logs/Configure` directory. These can be safely ignored. The warnings were written with the assumption that your configuration directory is `SAS`:

```
register_common.log, register_odcs.log, register_stagedds_and_dds.log
WARNING:
/SAS/Config/Lev1/Applications/SASSolutionsServices5.2/SASCode/SASEnvi
ronment/SASMacro is missing from concatenation.


register_fm.log and register_opplan.log
WARNING:
/SAS/Config/Lev/Applications/SASFinancialManagement5.2/SASCode/SASEnv
ironment/SASMacro is missing from concatenation.


register_hcm.log
WARNING:
/SAS/Config/Lev1/Applications/SASHumanCapitalManagement5.2/SASCod/SAS
Environment/SASMacro is missing from concatenation.
```

Installation and Configuration Notes for the Mid-Tier

If the Mid-Tier or ODCS Secondary Tier Web application deployment step for the ODCS ear fails with a bind error, this could be because port 9876 is in use. To set the ODCS RMI port to another value, open the WebLogic Administration console and set the JVM arguments for the ODCS managed server:

1. Open the **Configuration** tab for that server (default `SASServer4`).

2. On the **Server Start** tab in the "Arguments:" area, make sure there is only white space and not a line break at the end of current arguments and add the following argument. Change the port number to a port that is not in use:

```
"-Dodcs.dispatcher.port=9877"
```

3. Restart the ODCS server and the FM Server.

Configuration Guidelines and Details

Open the `Instructions.html` file found in the configuration directory in a browser. For example, if `/SAS/Config` is the path to your configuration directory, then open `/SAS/Config/Lev1/Documents/Instructions.html`.

Perform the manual configuration and validation steps outlined in the *Configuration Guidelines and Details for 'Server Name'* document. Then follow any solutions-specific post-configuration steps in "Chapter 4 — Post-Configuration Guide".

Chapter 4 — Post-Configuration Guide

After you complete the installation and configuration of your software, follow the post-configuration steps in Chapter 2 of the *SAS Solutions Services 5.2 System Administration Guide* which can be found here:
http://support.sas.com/documentation/solutions/admin/index.html

The *SAS 9.2 Intelligence Platform: System Administration Guide* provides additional general information on System Administration and can be found here:
http://www.support.sas.com/92administration

Chapter 5 – Upgrading to Performance Management Solutions 5.2

General Information on Upgrading

To upgrade to Performance Management Solutions Release 5.2, use the SAS Deployment Wizard. This wizard automatically detects if there are SAS software products in your order that are more recent than what you have deployed on your machine. For example, if your order includes a new release of SAS Financial Management and SAS Human Capital Management, then both of these products are upgraded when you run the SAS Deployment Wizard. You do not need to run the SAS Deployment Wizard separately for each product upgrade. Also, if you have not previously applied the third maintenance release for SAS 9.2, then these updates are automatically installed as well when you run the SAS Deployment Wizard.

If your SAS order contains any new products that were not in your current deployment, the SAS Deployment Wizard must be run twice. The first time the SAS Deployment Wizard is run, the currently installed products are upgraded, but no new products are installed. Then you run the SAS Deployment Wizard again to install the new products.

For instructions on how to upgrade to Performance Management Solutions 5.2, refer to the document *How to Install and Configure a New Product Release*. For full information on the maintenance and upgrade procedure, see http://support.sas.com/software/updates.

Steps to Take before Upgrading

Apply Hotfixes to 5.1

Strategic Performance Management and Human Capital Management Hotfix

Apply hotfix B56001 for Strategic Performance Management before you upgrade to 5.2. A fix in this hotfix package addresses a 5.1 issue with SAS Document Manager and Strategic Performance Management. The download and documentation for the hotfix are available here:
http://ftp.sas.com/techsup/download/hotfix/HF2/B56.html#B56001

Financial Management Hotfix

To address a 5.1 issue with SAS Document Manager, apply hotfix B48002 for SAS Financial Management before you upgrade to 5.2. If you also use Strategic Performance Management, apply hotfix B56001 described above. The download and documentation for the hotfix are available here:
http://ftp.sas.com/techsup/download/hotfix/HF2/B48.html#B48002

Strategic Performance Management Steps to Take before Upgrade

Back up Custom Templates in SAS Content Server

Before you upgrade, back up any custom templates loaded to SAS Content Server. For information on backing up SAS Content Server, refer to the document *Back up the SAS Content Server*.

Back up Any Custom Icons in the Ear File

Back up any custom icons from the SAS Strategy Management Web Application ear file.

Steps to Take after Upgrading

Stop and Restart SAS Servers and Web Application Servers

After you upgrade your Performance Management Solutions from release 5.1 to 5.2, you will need to stop and restart all SAS servers and Web Application servers. Instructions for this procedure can be found in the *SAS 9.2 Intelligence Platform System Administration Guide* in the section "Operating Your Servers." In stopping and starting WebLogic or WebSphere managed servers, PM Solutions use the additional servers SASServer3 and SASServer4. Your deployment may contain SASServer5 for Planning Data Entry and secondary ODCS Servers.

Review the Post Configuration Steps

After upgrading to Performance Management Solutions Release 5.2, review the Post-Configuration steps in Chapter 2 of the *SAS Solutions Services 5.2 System Administration Guide* which can be found here:
http://support.sas.com/documentation/solutions/admin/index.html

Using DI Studio Jobs and Upgrading

After you upgrade your Performance Management Solutions from release 5.1 to 5.2, you will see 5.1 folders that contain the previous version of the jobs in DI Studio. However, if you see only a 5.1 folder, follow these guidelines:

- Continue using 5.1 Jobs for 'Cross Industry Detail Data Store', 'SAS Operational Planning for Financial Management', and 'SAS Solutions Services' related tasks.

- Continue using 5.1 Standard Reports for 'SAS Solutions Services' related tasks.

Chapter 6 — Add-on to 9.2 Platform Before Maintenance 2 - Additional Instructions

If the site is adding a product to an existing 9.2 deployment that has been setup before 9.2 Maintenance 2, there are additional steps to be performed.

Manual Setup of JMS Queues

For alerts to work correctly, JMS queues must be set up manually on the Mid-Tier server for WebLogic.

WebLogic Administration Console

1. Expand Services

    A. Click **Foreign JNDI Providers**.

    B. Lock & Edit in the Change Center.

    C. Select **New**.

    D. Name is `WIPJNDIProvider`.

    E. Click **OK**.

2. Click on **WIPJNDIProvider**

    A. Initial Context Factory is `weblogic.jndi.WLInitialContextFactory`.

    B. Provider URL is `t3://**wipservername**:**wipserverport**` (make substitutions for your deployment).

    C. Leave User and Password blank.

    D. Click **Save**.

3. Click **Links** (near the top of window).

    A. Select **New**.

    B. Name is `WIPAlertQueueLink`.

    C. Local JNDI Name is `sas/jms/SharedServicesAlertQueue`.

    D. Remote JNDI Name is `sas/jms/AlertQueue`.

    E. Click **OK**.

4. Click **Links** (near the top of window).

    A. Select **New**.

    B. Name is `WIPQueueConnectionFactoryLink`.

    C. Local JNDI Name is `sas/jms/ShardServicesQueueConnectionFactory`.

    D. Remote JNDI Name is `sas/jms/QueueConnectionFactory`.

    E. Click **OK**.

5. Activate Changes.

WebLogic Administration Console

1. Expand Resources and JMS.

2. Select JMS Provider and set the scope to SASDmgr01Cell.

3. On the right under Additional Properties, click on **Queue connection factories**.

4. Select **New** and enter the following information:

    A. Name: SASQueueConnectionFactory.

    B. JNDI name: /sas/jms/QueueConnectionFactory.

    C. Bus Name: SAS Messaging Bus.

5. On the right under Additional Properties, click on **Queues**.

6. Select **New** and enter the following information:

    A. Name: AlertQueue.

    B. JNDI Name: sas/jms/AlertQueue.

    C. Bus Name: SAS Messaging Bus.

    D. Queue Name: AlertQueue.

    E. Read ahead: Inherit from the connection factory .

7. Save changes to the configuration.

Manual Setup of SAS Operational Planning Data Source

For SAS Operational Planning to work correctly with SAS Financial Management, the SAS OP Data Source must be setup manually on the Mid-Tier server for WebLogic.

WebLogic Administration Console

1. Expand Services:

    A. Click on **JDBC** and **Data Sources**.

    B. Click **SASOP Data Source**.

    C. Lock & Edit in the Change Center.

    D. Click the **Targets** tab.

    E. Add a check next to the ODCS managed server(s). The default name for the ODCS server is SASServer4. You will have chosen the names for additional ODCS servers.

    F. Click **Save**.

2. Activate Changes.

3. Restart the Solutions Server (SASServer3), ODCS Server (SASServer4) and the secondary ODCS and WDE servers. The default names for these servers are listed above. If you have selected different names, then restart the corresponding servers.

WebSphere Administration Console

1. Expand Resources

    A. Expand **JDBC** and click on **Data Sources**.

    B. In the **Scope** dropdown, select 'Server=SASServer4'.

    C. Click on **New**.

D. Create a new Data Source with the following attributes:

- **Data Source Name:** SAS OP Data Source

- **JNDI Name:** SASOP

- **Component-managed authentication alias:**
  `SASDmgr01Cell/sassdmbadminJaasAlias`

E. Click **Next**.

F. Check **Select an existing JDBC Provider** and select MySQL-SASOP from the dropdown.

G. Uncheck use this data source in container managed persistence and press **Next.**

H. Press **Finish** on the summary page and save changes to the master configuration.

I. Navigate back to Resources > JDBC > Data sources.

J. In the Scope drop down list, select the scope of SASServer4.

K. Click on the link for 'SASOP Data Source'.

L. Underneath **Additional Properties** on the right, click on **Custom Properties**.

M. Create the following properties in the form of key:value:

  i. databaseName:sasop

  ii. user:sasdmdbadm

  iii. password:<password for sasdmdbadm

  iv. port:3306

  v. serverName:<*name of the MySQL server*>

  vi. autoReconnect:true

  vii. relaxAutoCommit:true

  viii. connectionCollation:utf8_bin

  ix. useServerPreparedStmts:false

  x. pinGlobalTxToPhysicalConnection:true

  xi. disableBackendIdChecking:true

N. Save changes to the master configuration.

Install and Configure Themes

On the Mid-Tier during the SAS Deployment Wizard, be sure to select **Install and configure SAS Web Application Themes**.

Then SAS Deployment Wizard will then install, configure and deploy all the dependent software.

If this product is not configured, themes will not be updated and the solutions will not function correctly.

When the SAS Deployment Wizard completes deployment, you will see
`themes_deployment_complete`.

Rebuilding and Redeploying Web Applications

Solutions update content in the following Web applications:

- SAS Web Infrastructure Platform
- BI Dashboard
- SAS Web Application Themes

For instructions, refer to the *SAS 9.2 Intelligence Platform Web Application Administration Guide* at `http://www.support.sas.com/92administration`

After the SAS Deployment Wizard finishes, launch the SAS Deployment Manager. Rebuild the Web application listed above as documented in the section "Rebuilding Web Applications" of the referenced document. Redeploy the Web applications with the appropriate Web application server console.

Chapter 7 — Installing Client Applications

About the Client Applications

Client applications must be installed on Windows machines. The following client applications are available for the Performance Management solutions:

Application Description

SAS Financial Management Studio

SAS Financial Management Studio enables users to build and manage the infrastructure for SAS Financial Management.

SAS Solutions Services Dimension Editor

The SAS Solutions Services Dimension Editor enables users to manage data dimensions.

SAS Solutions Services Add-In for Microsoft Office

This add-in connects a Microsoft Office application to the middle tier of SAS Solutions Services. It enables users to insert content from the solutions into a Microsoft Office document.

SAS Financial Management Add-In for Microsoft Excel

This add-in connects a desktop copy of Microsoft Excel to the middle tier and provides access to SAS Financial Management data. With this client, users can build reports that are based on data in the SAS Financial Management database, build forms for entering financial or operational data into the database, and enter financial planning data.

Client Applications in SAS Intelligence Platform

In addition to the client applications that are part of the solutions, users might need to install one or both of these client applications that are part of the SAS Intelligence Platform:

- SAS Management Console (for system administrators)
- SAS Data Integration Studio (for data administrators)

About the SAS Environment Files

SAS Solutions Services and the solutions use two environment files:

- **the SAS environment file** (sas-environment.xml): applies to the SAS Financial Management Studio and SAS Solutions Services Dimension Editor client applications
- **the Solutions environment file** (EnvironmentFactory.xml): applies to the SAS Solutions Services Add-In for Microsoft Office and the SAS Financial Management Add-In for Microsoft Excel

These files enable desktop client applications to determine the location of required services on the middle tier and to obtain a list of services available in the environment.

SAS Financial Management Studio and SAS Solutions Services Dimension Editor

Overview

The Performance Management solutions include two stand-alone client applications:

SAS Financial Management Studio

When SAS Financial Management is licensed, SAS Financial Management Studio enables users to build and manage the infrastructure for SAS Financial Management, including cycles, models, dimensions, and form sets.

SAS Solutions Services Dimension Editor

The Dimension Editor is available as part of SAS Solutions Services. It enables users to manage data dimensions. The functionality in this application is also available in SAS Financial Management Studio. For information about the groups and roles that are required to run these client applications, see "SAS Financial Management Groups and Roles" in the *SAS Solutions Services System Administration Guide*.

Installation Notes

Java Runtime Environment (JRE)

These client applications use the default JRE on the client machine. If you want an application to use a different JRE, add a **–vm** option to the application's `.INI` file, with the path to the appropriate `EXE` or `DLL` file. The **–vm** option must appear before the **–vmargs** line. Here is an example:

```
-vm
C:\j2sdk1.5.0_12\jre\bin\client\jvm.dll
-vmargs
...
```

Specifying a SAS Environment File During New Installation

During the installation, you are asked to supply the URL for the SAS environment file (`sasenvironment.xml`). The default path is as follows where **server** is the name of the middle-tier server that you want to connect to:

- WebLogic: **http://*server*:7001/SASLogon/sas-environment.xml**
- WebSphere: **http://server:9080/SASLogon/sas-environment.xml**

The SASLogon Web application is part of the `sas.wip.apps9.2.ear` enterprise application (EAR), which by default is deployed to the managed server on port 7001 for WebLogic and port 9080 for WebShere. If your site deployed this EAR to a managed server on a different port, supply the appropriate port number. For information about this file, see "Configuring the SAS Environment Files" in the *SAS Solutions Services System Administration Guide*.

Specifying a SAS Environment File During Upgrade Installation

When launching the SAS Software Deployment Wizard, you will need to specify a command line argument for the SAS Environment File location to be updated correctly. To launch the SAS Deployment Wizard with an argument, change directories to the top level of your SAS Software Depot and issue this command:

```
        setup.exe -serverurl <URL path>
```

Where *<URL path>* is **http://*server*:7001/SASLogon/sas-environment.xml**

The Add-In Clients for Microsoft Office

The Performance Management solutions include two add-in clients for Microsoft Office applications:

SAS Solutions Services Add-In for Microsoft Office

This client is part of SAS Solutions Services. It enables users to import solutions content into Microsoft Excel or Microsoft Word. All SAS Strategy Management items are available for viewing, including key performance indicator (KPI) projects and custom balanced scorecard projects.

Note: *Stored processes cannot be run within Microsoft Excel or Microsoft Word. (Users can run a stored process from Document Manager, from a My Favorites portlet, or from a Collections portlet.)*

SAS Financial Management Add-In for Microsoft Excel

When SAS Financial Management is licensed, SAS Financial Management Add-In for Microsoft Excel is available for use by financial process administrators, form submitters or approvers, and financial report creators.

Installation Notes

Installation Sequence

If you install SAS Financial Management Add-In for Microsoft Excel, you must also install SAS Solutions Services Add-In for Microsoft Office. These clients can be installed separately or at the same time. If they are installed separately, they must be installed in this sequence:

1. SAS Solutions Services Add-In for Microsoft Office
2. SAS Financial Management Add-In for Microsoft Excel

Java Runtime Environment (JRE)

The add-ins use the JRE that is defined in the JREHOME environment variable in the `sassw_config.xml` file. That file is located in the `Program Files\SAS` directory.

Specifying a Solutions Environment File During Installation

During the installation of SAS Solutions Services Add-In for Microsoft Office, you are asked to supply the URL for the Solutions environment file (`EnvironmentFactory.xml`). The default value is as follows where *server* is the name of the middle-tier server that you want to connect to. (The installation procedure adds the rest of the URL, including the file name.)

*   WebLogic: **http://*server*:7201**
*   WebSphere: **http://*server*:9082**

Note: You do not see this prompt when you install the SAS Financial Management Add-In for Microsoft Excel. The URL that you supply for the SAS Solutions Services Add-In for Microsoft Office is used by both clients.

The `EnvironmentFactory.xml` file is part of the `sas.solutionsservices5.2.ear` enterprise application, which by default is deployed to the managed server on port 7201 for WebLogic and port 9082 for WebSphere. If your site deployed this EAR to a managed server on a different port, adjust the port number accordingly. For information about this file, see

"Configuring the SAS Environment Files" in the *SAS Solutions Services System Administration Guide*.

Installing Add-In Clients for Microsoft Office, SAS Financial Management Studio and SAS Solutions Services Dimension Editor

Software Deployment Wizard for Client Tier

1. Launch the SAS Deployment Wizard from the setup.exe file in your SAS Software Depot.

2. Select *Perform a Planned Deployment* from the **"Select Deployment Type"** dialog. Be sure that *Install SAS Software and Configure SAS Software* are both checked.

3. Enter the path to your plan file from the **"Specify Deployment Data"** dialog.

4. Select `Clients` as the machine in the **"Select Products to Install"** dialog.

5. Select languages needed from the **"Select Language Support"** dialog if installing SAS Add-in for Microsoft Office which is required for Solutions Services and Financial Management Office Add-ins.

6. Most installations will use the recommended Java Runtime Environment. See the section above for more information, Java Runtime Environment (JRE).

7. For the dialogs listed below, the following information supplements the help screens:

   A. **Select URL for Available Servers** dialog; enter the URL in the form of http://<server name>:<port>. Your site administrator will provide you with the correct URL.

   B. **Select Microsoft Applications** dialog; check the Microsoft Applications that you wish to use SAS Add-in for Microsoft Office with.

   C. Specify *Typical* in the **Select Configuration Prompting Level** dialog if you are configuring other clients. Specify *Custom* if you are only configuring Peformance Management Clients. Prompts described below are for custom prompting level.

   D. **"Specify Configuration Information"** dialog; select a directory to store configuration files.

   E. **"Select Products to Configure"** dialog; this dialog is presented with the custom prompting level. Deselect any products on this screen that you did not select to install. Be sure that SAS Solutions Dimension Editor and SAS Financial Management Studio are selected.

   F. **"Local Machine Name"** dialog; confirm the name of the client machine.

   G. **"Migration Information"** dialog; leave this box unchecked.

   H. **"SAS Financial Management Studio" dialog;** enter the URL that defines the SAS Environments that you have access to. Check with your site administrator for this value. The default is `http://host:port/SASLogon/sas-environment.xml`. See the sections above for more information, Specifying a SAS Environment File During New Installation and Specifying a Solutions Environment File During Installation.

   I. **"SAS Solutions Dimension Editor"** dialog; enter the URL that defines the SAS Environments that you have access to. Check with your site administrator for this value. The default is `http://host:port/SASLogon/sas-environment.xml`. See the sections above for more information, Specifying

a SAS Environment File During New Installation and Specifying a Solutions Environment File During Installation.

8. At the **Deployment Summary** dialog press **Start.**

Complete the Installation of the SAS Solutions Services Add-In for Microsoft Office

Microsoft Office 2010

For Microsoft Office 2010, follow these steps to complete the installation:

1. Open Microsoft Excel.

2. Click the **File** tab.

3. Under **Help**, click on **Options**.

4. Select the **Add-Ins** category.

5. From the **View and Manage Microsoft Office Add-ins** window, select **SAS SPM Functions** if it is there.

6. From the **Manage** box, select **Excel Add-Ins** and click **Go**.

    A. If SAS SPM Functions is checked, click **OK**.

    B. Otherwise browse to *Microsoft-Office-install-dir*\Office14\Library.

    C. Select **SAS SPM Functions.xla** and click **OK**.

    D. Make sure that **SAS SPM Functions** is selected in the list and click **OK**.

Microsoft Office 2007

For Microsoft Office 2007, complete the installation of this add-in client as follows:

1. Open Microsoft Excel.

2. Click the **Microsoft Office** button.

3. Click **Excel Options**.

4. Select the **Add-Ins** category.

5. From the **Manage** box, select **Excel Add-ins** and click **Go**.

6. In the Add-Ins Available dialog box, select **SAS SPM Functions** if it is there. Otherwise click **Browse**.

    A. Navigate to *Microsoft-Office-install-dir*\Office12\Library.

    B. Select **SAS SPM Functions.xla** and click **OK**.

    C. Make sure that **SAS SPM Functions** is selected in the list and click **OK**.

Earlier Versions of Microsoft Office

For earlier versions of Microsoft Office, complete the installation of this add-in client as follows:

1. Open Microsoft Excel.

2. From the **Tools** menu, select **Add-Ins**. The Add-Ins dialog box appears.

3. Click **Browse** to search for **SAS SPM Functions.xla**.

4. This file should be located in *Microsoft-Office-install-dir*\Office\Library, Office10\Library, or Office11\Library, depending on the version of Microsoft Office that is installed.

5. Click **OK** to add it to the Add-Ins dialog box.

6. In the Add-Ins dialog box, make sure that **SAS SPM Functions** is selected.

7. Click **OK**.

8. Click **OK**.

Verify the Installation

To verify that the installation succeeded, open Microsoft Excel or Microsoft Word. You should see a new menu item, SAS Solutions, which is available to users who belong to the Solutions Users group and who have the proper roles. (See Chapter 3, "Assigning Groups and Roles," in the *SAS Solutions Services System Administration Guide*.)

Complete the Installation of the SAS Financial Management Add-In for Microsoft Excel

Delete Existing References to the .XLA File

If you had a previous installation of the SAS Financial Management Add-In for Microsoft Excel, you might need to remove the add-in from Microsoft Excel, as follows:

1. In the Add-Ins (or Add-Ins Available) box, clear the check box for SAS Financial Management Functions.

2. When you are asked if you want to delete the add-in, click **yes**. Close Microsoft Excel and reopen it.

Microsoft Office 2010

For Microsoft Office 2010, follow these steps to complete the installation:

1. Open Microsoft Excel.

2. Click the **File** tab.

3. Under **Help**, click on **Options**.

4. Select the **Add-Ins** category.

5. From the **View and Manage Microsoft Office Add-ins** screen, select **SAS Financial Management Functions** if it is there.

6. From the **Manage** box, select **Excel Add-Ins** and click **Go**.

    A. If SAS Financial Management Functions is checked, click **OK**.

    B. Otherwise, browse to *Microsoft-Office-install-dir*\Office14\Library

    C. Select SAS Financial Management Functions.xla and click **OK**.

    D. Make sure that **SAS Financial Management Functions** is selected in the list and click **OK**.

Microsoft Office 2007

For Microsoft Office 2007, follow these steps to complete the installation:

1. Open Microsoft Excel.

2. Click the **Microsoft Office** button.

3. Click **Excel Options**.

4. Select the **Add-Ins** category.

5. From the **Manage** box, select **Excel Add-Ins** and click **Go**.

6. In the **Add-Ins Available** dialog box, select **SAS Financial Management Functions** if it is there. Otherwise click **Browse**.

    A. Navigate to `Microsoft-Office-install-dir\Office12\Library`

    B. Select `SAS Financial Management Functions.xla` and click **OK**.

    C. Make sure that SAS Financial Management Functions is selected in the list and click **OK**.

Earlier Versions of Microsoft Office

For earlier versions of Microsoft Office, follow these steps to complete the installation:

1. Open Microsoft Excel. Open the **Add-Ins** dialog box.

2. From the **Tools** menu, select **Add-Ins**. The **Add-Ins** dialog box appears.

3. Click **Browse** to search for `SAS Financial Management Functions.xla`. Depending on the version of Microsoft Office that is installed, the file will be located in one of these locations:

    • `Microsoft-Office-install-dir\Office\Library`

    • `Microsoft-Office-install-dir\Office10\Library`

    • `Microsoft-Office-install-dir\Office11\Library`

4. In the **Add-Ins** dialog box, make sure that **SAS Financial Management Functions** is selected.

5. Click **OK**.

6. Click **OK**.

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