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SAS® Model Manager 13.1
Migration Guide

SAS® Documentation

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Contents

Chapter 1

Introduction to SAS Model Manager 13.1 Migration

Overview of SAS Model Manager 13.1 Migration

This document supplements *SAS Intelligence Platform: Migration Guide*. It provides information about how to copy SAS content from an existing deployment to a new deployment of SAS Model Manager. It also explains how to configure SAS Model Manager 13.1 on SAS 9.4 using the SAS Migration Utility and the SAS Deployment Wizard. This document provides post-migration steps that must be performed manually to complete the migration process. When you run the SAS Deployment Wizard to upgrade to SAS Model Manager 13.1, migration of system configurations and content is performed during the installation and configuration of SAS 9.4. All SAS Model Manager content is included in the migration, and all products that are in a deployment are migrated at the same time.

You can migrate to SAS Model Manager 13.1 on SAS 9.4, from the following types of deployments:

- SAS Model Manager 2.2 on SAS 9.2
- SAS Model Manager 2.3 on SAS 9.2
- SAS Model Manager 3.1 or 3.1 M1 on SAS 9.3
- SAS Model Manager 12.1 or 12.1 M1 on SAS 9.3
- SAS Model Manager 12.3, 12.3 M1, or 13.1 on SAS 9.4

  Note: This type of deployment would be used if you have upgraded your operating system or hardware. You can also use the migration tools to make a copy of a complete deployment on SAS 9.4.

For more information, see the *SAS Intelligence Platform: Migration Guide*, which provides details about designing, preparing, implementing, validating, and delivering a migration for metadata-based deployments. You can also see the Migration focus area in the Knowledge Base, available at http://support.sas.com.

SAS Model Manager 13.1 on SAS 9.4 contains features that enhance management of projects and models, and it supports more types of SAS code models. For more information, see *SAS Model Manager: User's Guide* or *SAS Model Manager: Administrator's Guide*.

You can migrate SAS content from SAS Model Manager 2.2 or later for use with SAS Model Manager 13.1. The SAS content is stored in your SAS Metadata Server and WebDAV Server.

After you have upgraded your SAS deployment, you must use the new version of SAS Model Manager. When you migrate, you perform a full system migration. SAS content and configuration settings are migrated to SAS 9.4 at the same time. For more information, see "High-Level SAS Migration Requirements" in Chapter 1 of *SAS Intelligence Platform: Migration Guide*.

SAS tools automate most of the tasks that are necessary to migrate content that is stored on the SAS Metadata Server and WebDAV Server to SAS 9.4:

- The SAS Migration Utility produces a package of SAS 9.2, SAS 9.3, or SAS 9.4 content and configuration settings that the SAS Deployment Wizard uses during the SAS 9.4 installation and configuration.
- The SAS Deployment Wizard installs and initially configures SAS 9.4 products. During migration, the SAS Deployment Wizard reads the package that the SAS Migration Utility created to update SAS with your content and configuration settings for SAS 9.4.

  Note: If the SAS software is being upgraded, the SAS Deployment Wizard performs conversions as needed.

SAS Model Manager Content

SAS Model Manager creates several types of content. The upgrade process preserves the content and performs transformations as required. The system reference data for objects is stored on the SAS Metadata Server. When you move to a new version of SAS, the deployment process creates a new copy of the SAS Metadata Server repository. The SAS Content Server (WebDAV Server) stores the content of the model repository, which includes organizational folders and project folders that contain versions, models, reports, and other project data. The data source, channels, and dashboard report directory content is not copied or moved as part of the upgrade or migration process before the release of SAS Model Manager 3.1. Only the metadata definitions for the directory paths are copied to the new SAS Metadata Server repository. The channels and the dashboard report directory content can be copied from the old system to the new system in SAS Model Manager 3.1 or later.

SAS Metadata Server

When you install and configure SAS Model Manager 13.1 on SAS 9.4, you can migrate SAS Metadata Server objects from a previous deployment of SAS 9.2, SAS 9.3, or SAS 9.4 for use with SAS 9.4 applications, including SAS Model Manager 13.1. This list of objects includes the SAS Model Manager mining result objects, SAS libraries, metadata about physical tables, and publishing channels. The migration process converts objects from the SAS 9.2 Metadata Server or the SAS 9.3 Metadata Server for use with the SAS 9.4 Metadata Server.

For SAS Model Manager, the following project and model information is stored on the SAS Metadata Server:

Mining Result Object
: When you publish a project champion model or model, a mining result object is created on the SAS Metadata Server. The mining result object contains the list of input variables, the list of output variables, SAS score code, and additional information about model properties. Several products, including SAS Enterprise Guide, SAS Real-Time Decision Manager, and SAS Data Integration Studio, can read these models to create SAS jobs that score new data.

Publishing Channels
: SAS Model Manager uses the SAS Publishing Framework to publish models to defined channels and notifies subscribers of the publication channel when the models are delivered.

SAS Library and Physical Table Metadata
: SAS Model Manager uses physical tables that are defined in the SAS Metadata Server. The metadata about physical tables and libraries is migrated as well.

Scheduled Jobs
: SAS Model Manager creates scheduled jobs that are defined in the SAS Metadata Server. The metadata that contains information about scheduled jobs is migrated as well.

Data Source Definitions and Directory Content

All project-related or model-related data source definitions and publishing channels must be accessible to the SAS Workspace Server that is used by SAS Model Manager. In addition, input and output data sources that are used for scoring tasks, as well as any directories that are associated with publishing channels and dashboard reports, must also be accessible to the SAS Workspace Server. The SAS Workspace Server that SAS Model Manager 13.1 uses is defined when you are running the SAS Deployment Wizard, and can be managed using SAS Management Console after installation. The default location for the channels directory and dashboard report directory was changed with the release of SAS Model Manager 3.1. This data does not need to be migrated to work with SAS Model Manager 13.1, but must be accessible to the SAS Workspace Server that SAS Model Manager 13.1 uses. The SAS Model Manager 2.2 or 2.3 data sources and directories can be made available to the new SAS Workspace Server by copying the directories or by making the network directories available to the new SAS Workspace Server for SAS Model Manager 13.1. If you want to keep the same directory path on the new machine, you must change the default path during installation.

For example, in your SAS Model Manager 2.2 environment on the SAS Workspace Server, all of the scoring input and output data sets are stored in the `c:\MMDataSources` directory on the source machine. This location was specified when you registered the data sets using SAS Management Console. When SAS Model Manager 2.2 executes a scoring task, the SAS Workspace Server accesses these input and output data sets. You should copy the entire `MMDataSources` directory and place it in the same location (for example, `c:\`) on the new SAS Workspace Server for SAS Model Manager 13.1. If you have multiple directories in your SAS Model Manager 2.2 environment that contain SAS Model Manager scoring input and output data sets, copy each directory in the same manner.

Publishing channels that have a persistent store type of **Archive** and an archive type of **File** have configuration information in metadata that points to a specific location. If this location is local to the SAS Workspace Server in the source system, then make sure that the location exists on the new SAS Workspace Server for SAS Model Manager 13.1 on

SAS 9.4. For example, in a SAS Model Manager 2.2 environment, you can use **`c:\Channels`** as the storage location. Then copy the channels directory from the SAS Workspace Server for SAS Model Manager 2.2 to the **`c:\`** directory on the SAS Workspace Server for SAS Model Manager 13.1. The tables then need to be made available to the application using the Data category from within SAS Model Manager 13.1.

If a network location is used in any of the cases above, make sure that the network location is accessible to the SAS Workspace Server that is used by SAS Model Manager. The network location access permissions might require assistance from a system administrator.

WebDAV Server

SAS Model Manager version 2.2 and later use the SAS Content Server as the WebDAV Server. The project and model data in the model repository is stored on the SAS Content Server. This data can be collected when the SAS Migration Utility is executed on SAS 9.2, SAS 9.3, SAS 9.4. For more information, see Appendix 1, "SAS Migration Utility Reference," in *SAS Intelligence Platform: Migration Guide*. During the SAS 9.4 configuration phase, the WebDAV Server content is imported into the SAS Content Server and updated to reflect the new host and port information if necessary.

SAS Model Manager Database

By default during a deployment of SAS Model Manager 13.1 on 9.4, the SAS Deployment Wizard creates and configures the database to use the SAS Decision Manager Common Data Server. The user ID and password come from the SAS Decision Manager Common Data Server configuration. The SAS Decision Manager Common Data Server database is used to store operational, historical, and auditing data for SAS Model Manager. In SAS 9.4, the default database management system for the SAS Decision Manager Common Data Server database is PostgreSQL. Oracle is also supported.

Chapter 2

Preliminary Steps for Migration

Prepare for Migration

Before you begin your migration, perform these steps:

1. Review the SAS 9.4 Quick Start Guide.
2. Review *SAS Intelligence Platform: Migration Guide*.
3. Design your migration.
4. Perform pre-migration tasks.

Because all products in a deployment are migrated at the same time, you should review the guidelines for all of your licensed products. The steps that you perform when designing your migration will help you create and analyze an inventory of your deployment.

Review the Quick Start Guide

When you create a SAS Software Depot for your SAS 9.4 deployment, a quick-start guide is provided to help you install your downloaded software. The guide is available in the SAS Software Depot, if you choose electronic delivery, or in hard copy if you receive physical media. The guide provides an overview of the steps that are required to install your software, such as links to documentation for system requirements, migration, pre-installation checklists, and installation. Review this document to ensure that you have completed the tasks that are necessary before you begin your installation. For more information, see the SAS 9.4 installation documentation that is available from the SAS Install Center.

Design Your Migration

Follow the steps that appear in Chapter 2, "Designing Your Migration," in *SAS Intelligence Platform: Migration Guide*. Here are the most important steps:

- Review high-level SAS migration requirements.
- Assess your hardware and third-party software.
- Perform an inventory of your current SAS deployment. The SAS Migration Utility can help you analyze the content in your current SAS deployment and identify any updates that are needed before the automated migration tools can work with your deployment.
- Evaluate middle-tier considerations.

Pre-Migration Tasks

For information about the pre-migration tasks that you must perform, see Chapter 3, "Performing Pre-migration Tasks," in *SAS Intelligence Platform: Migration Guide*. Here are the most important steps:

- Back up your SAS system, including servers and desktop clients.
- Back up the SAS Web Infrastructure Platform Services database if you are migrating a SAS 9.3 or SAS 9.4 system.
- Back up the SAS Model Manager database if you are migrating SAS Model Manager 12.1 or 12.1 M1 on a SAS 9.3 system or SAS Model Manager 12.3 or 12.3 M1 on a SAS 9.4 system.
- Back up the SAS Decision Manager Common Server database if you are migrating from SAS Model Manager 13.1 to 13.1 on a SAS 9.4 system.
- Perform any required maintenance that is required to meet minimum baselines.
- Determine whether you can use a standard deployment plan to install SAS 9.4 and SAS Model Manager or whether you need to request a custom deployment plan. You must specify the plan file when you use the SAS Deployment Wizard.
- Complete the pre-installation and migration checklists. These checklists can be customized based on the deployment plan that you choose. For more information, see "Completing the Pre-migration Checklists" in Chapter 3 of *SAS Intelligence Platform: Migration Guide*.
- If you are moving to a new system, ensure that the required operating system user accounts that you used for SAS in your current operating system also exist in your new operating system. Examples of these user accounts include **`sasadm`**, **`sastrust`**, and **`sasdemo`**. The migration process requires the same operating system user accounts that you used with SAS Model Manager 2.2 or 2.3 on SAS 9.2, and SAS Model Manager 3.1, 3.1 M1, 12.1, 12.1 M1, or 12.3 on SAS 9.4.
- Before you migrate to SAS Model Manager 13.1, you should record the database settings in your current environment. You must enter this information in SAS Deployment Wizard.

  - For the SAS Decision Manager Common Data Server, record the database name and the user name for your database. The default database name is **dcmdb**.
  - If you are using Oracle for your database, record the following information:
    - fully qualified host name of the database server
    - port number of the database server
    - Oracle Site Identifier (SID)
    - user ID of the database user whose credentials are used to access SAS Model Manager data on the server
    - password of the database user whose credentials are used to access SAS Model Manager data on the server

    You can find the Oracle SID in the tnsnames.ora file. You can also determine the SID by running the following query using a database user ID on your Oracle instance:

    ```
    select instance from v$thread
    ```

    You must enter the SID in the **Database name** field in the SAS Decision Manager Database JDBC Properties dialog box in SAS Deployment Wizard.

- Install third-party software. If you are using Oracle for your database, ensure that the Oracle client is installed on your server tier and that there is a matching tnsnames.ora file for the SAS Decision Manager Common Data Server database. See Table 2.2, "SAS Deployment Wizard Information for Oracle," in *SAS Model Manager: Administrator's Guide* for information about the tnsnames.ora file.
- Create a SAS Software Depot. For more information, see "Creating SAS Software Depots" in Chapter 3 of *SAS Intelligence Platform: Migration Guide*.
- Use the SAS Migration Utility to create a migration package. If you are migrating a SAS Model Manager 12.1, 12.3, or 13.1 system, you must enter the configuration properties for the SAS Model Manager Mid-Tier (MMAPI) in the SAS Migration Utility properties file.

  The values for the SAS Migration Utility properties can be found in SAS Management Console. Select the **Folders** tab and expand **System** ⇨ **Applications** ⇨ **SAS Model Manager Mid-Tier**. Select the **Model Manager Mid-Tier <*version*>** folder, right-click the **Model Manager-Mid-Tier <*version*>** application object, and then select **Properties** ⇨ **Configuration**. The prefix for the configuration properties that are equivalent to the SAS Migration Utility properties is dbms.mmapi.

  Here is the list of configuration properties that should be used to populate the migration properties:

SAS Migration Utility Properties	Configuration Properties in SAS Management Console
mmapi.data.dbms.type	dbms.mmapi.type
mmapi.dbms.data.name	dbms.mmapi.name
SMU.mmapi.dbms.host	dbms.mmapi.host
SMU.mmapi.dbms.port	dbms.mmapi.port
SMU.mmapi.dbms.userid	dbms.mmapi.userid

SAS Migration Utility Properties	Configuration Properties in SAS Management Console
SMU.mmapi.dbms.password	<not stored here>

For more information, see Appendix 1, “SAS Migration Utility Reference,” in *SAS Intelligence Platform: Migration Guide*, and Appendix 3, “SAS Model Manager Properties,” in *SAS Intelligence Platform: Migration Guide*.

Chapter 3

Migration Deployment Process

Overview

For a SAS Model Manager 2.2 or later deployment, you can use migration tools to migrate information that is stored on the SAS Metadata Server, WebDAV Server, and a middle-tier server to a SAS Model Manager 13.1 installation.

After you have designed your migration and completed other preliminary steps, you can perform a migration assessment. You do this by running the SAS Migration Utility on the machine where the SAS 9.2, SAS 9.3, or SAS 9.4 Metadata Server is installed. The SAS Migration Utility must be run on all servers in the deployment. The SAS Migration Utility produces a package of SAS 9.2, SAS 9.3, or SAS 9.4 content and configuration settings. The SAS Deployment Wizard uses the package when you install and configure SAS 9.4 and SAS Model Manager 13.1. After the automated process is complete, some manual steps must be performed. For more information, see Appendix 1, "SAS Migration Utility Reference," in *SAS Intelligence Platform: Migration Guide*.

After you create your SAS Migration Utility package and complete your migration assessment, make sure that the migration package contains the content from the WebDAV server (SAS Content Server). A full report of SAS Migration Utility package generation is located at **<*SMUPackageDir*>\<*host-name*>\AnalysisReport**. The SAS Content Server content for SAS 9.2, 9.3, and 9.4 is in the directory **<*SMUPackageDir*>\<*host-name*>\SCS\Repository**. You also must make sure that the migration package contains the content from the database for SAS Web Infrastructure Platform if the system is SAS 9.3 or SAS 9.4. The migration package must also contain the database for SAS Model Manager if the system is SAS Model Manager 12.1, 12.1 M1, 12.3, 12.3 M1, or 13.1. The database content for SAS Web Infrastructure Platform WIP_database.zip is in the directory **<*SMUPackageDir*>\<*host-name*>\webinfpltfm**. The database content for SAS Model Manager MM_database.zip is in the directory **<*SMUPackageDir*>\<*host-name*>\mmapi**.

You can then begin to install and configure SAS 9.4 and SAS Model Manager 13.1. During this process, you can migrate your content and configuration settings. To migrate and configure SAS Model Manager 13.1 on SAS 9.4, follow the steps that are specified in "Install and Migrate SAS Interactively" in Chapter 4 of *SAS Intelligence Platform: Migration Guide*.

Summary of Tasks

Here is a high-level summary of the migration and configuration tasks for the SAS Model Manager 13.1 on SAS 9.4 installation and migration.

1. Begin the deployment on the SAS Metadata Server. For a Windows installation, select the **setup.exe** file. For a UNIX installation, select **setup.sh**. This executable program launches the SAS Deployment Wizard, which helps you install and configure SAS 9.4 products.

   For more information, see Chapter 4, "Installing SAS 9.4 and Migrating Your SAS Content," in *SAS Intelligence Platform: Migration Guide*.

2. Specify a deployment plan for your installation. This can be a customized deployment plan or a standard deployment plan, such as **`ModelMgr3`**. Then click **Next** to continue with the installation. For more information, see "Preparing to Install and to Configure" in Chapter 4 of *SAS Intelligence Platform: Migration Guide*.

   Note: When performing a SAS Model Manager migration, you must use the default directory paths for the target system. This location must be a network drive that is accessible by the SAS Workspace Server or a directory that is located on the SAS Workspace Server.

3. Continue with the SAS Deployment Wizard until you reach the Migration Information screen. Select the **Perform Migration** check box, and enter the path for the migration package that you created with the SAS Migration Utility. This path should go to the top level directory of the migration package and should match the value of the SMU.Output.Dir property (for example **`C:\SMU\92_Deployment`**).

4. Specify a user ID and password for an unrestricted user account (for example, System Administrator). Then validate that the correct user ID is specified and enter the appropriate password. For a Windows account, provide the user ID in a qualified format, such as *domain**userID* or *machine**userID*. For UNIX, do not use the machine name as part of the user ID for **`sasadm`**. Follow the same steps to specify a user ID and password for the **SAS Trusted User**. Validate that the correct user ID is specified and enter the appropriate password.

   Note: During installation, you can switch to internal user accounts for the unrestricted and sastrust user accounts. If you choose to use external user accounts on the SAS Model Manager 13.1 machine, they must match the user accounts for the unrestricted and SAS trusted user accounts (for example, **`sasadm`** and **`sastrust`**) on the machine that has the version of SAS Model Manager that is being migrated. Only external user accounts such as **`myserver\mdlmgradmin`** or **`mydomain\user1`** can access the SAS Model Manager client.

5. Complete the installation and configuration, and then perform any required post-migration manual steps. Those steps might include post-installation verification and configuration steps for SAS Model Manager, and other installed SAS products that are specified in the instructions.html file. The instructions.html file is produced after your installation. For more information, see Chapter 4, "Post-Migration Manual Steps," on page 13 and "Post-Installation Configuration and Verification Steps" in Chapter 4 of *SAS Model Manager: Administrator's Guide*.

Note: In a multi-machine deployment, you must repeat the installation and configuration steps on the other machines before you can launch the client on the client machine.

6. After you have completed both the post-migration manual steps and post-installation verification and configuration steps for SAS Model Manager, verify that you can successfully access and sign in to the SAS Model Manager 13.1 web application. Also verify that your migrated SAS content is available to the new SAS 9.4 deployment.

   a. Open the URL http:///*hostname*:*port*/SASDecisionManager in a web browser window. The URL can be found in the instructions.html file.

   b. When the Sign In page appears, enter a valid user ID and password, and then click **Sign In**. The user must have permissions to access the application. You can enter the user credentials that you configured in the pre-validation steps section of the instructions.html file.

   c. Select an existing project to work with or create a new one.

   Note: The middle-tier server might not be available until all post-installation tasks are completed in step 5.

Chapter 4

Post-Migration Manual Steps

Overview

After you have migrated to SAS Model Manager 13.1 on SAS 9.4, perform the following post-migration manual steps:

1. Copy or move the contents of the dashboard reports and channels directories from the source machine to the target machine.

   Note: The dashboard report directory exists only in a deployment of SAS Model Manager version 2.3 or later. For a single-machine deployment, if the source machine has a deployment of SAS Model Manager version 3.1 or later, and if the directories for the channels and dashboard reports are the default directory paths, you do not need to manually copy the contents of the directories. The SAS Migration Utility migrates content in the channels and dashboard report directory for a single-machine deployment.

2. Modify the URLs for the images that are referenced in the HTML and Excel reports.
3. Run post-migration macros if you are migrating from one UNIX operating system to different type of UNIX system, or from a Windows 32-bit server to a Windows 64-bit server.
4. Run the performance data macro %MM_migrationStep3() if you are migrating from SAS Model Manager 2.2, 2.3, 3.1, or 3.1 M1.

See the following topics for details:

- "User-Defined Templates" on page 14
- "Publishing Channels" on page 14
- "Dashboard Reports" on page 15
- "HTML and Excel Reports" on page 16

- "Operating System Migration" on page 17

User-Defined Templates

When you are migrating to SAS Model Manager 13.1 from 3.1 or later, all user-defined templates are migrated from the source system to the target system. This content includes all user-defined life cycle templates, model templates, report templates, and SAS code files. The user-defined templates are located on the SAS Content Server at http://*hostname*:*port*/SASContentServer/repository/default/ModelManager/ConfigTemplates/ext/.

When migrating from SAS Model Manager 2.2 or 2.3, all custom content from the ***sasconfigdir*\Lev#\AnalyticsPlatform\apps\ModelManager\ext** directory on the source system is automatically copied to the SAS Content Server on the target system as part of the migration process.

Publishing Channels

When migrating from a previous release of SAS Model Manager, you must manually copy the contents of the channels directory from your old system to a directory on the new machine that is running SAS Workspace Server. It is recommended that you use the same directory name when migrating from an existing SAS Model Manager 13.1 deployment to a new deployment of SAS Model Manager 13.1. If you use the same directory name, you do not need to copy the contents of the channels directory. Here are the default directory paths for each version of SAS Model Manager.

Version of SAS Model Manager	Default Directory Path
2.2 and 2.3	***SASConfigDir*\Lev#\AnalyticsPlatform\apps\ModelManager\Channels**
3.1 and 3.1 M1	***SASConfigDir*\Lev#\AppData\SASModelManager3.1\Channels**
12.1 and 12.1 M1	***SASConfigDir*\Lev#\AppData\SASModelManager12.1\Channels**
12.3	***SASConfigDir*\Lev#\AppData\SASModelManager12.3\Channels**
13.1	***SASConfigDir*\Lev#\AppData\SASModelManager13.1\Channels**

For example, in Windows the path might be **C:\SAS\Config\Lev1\AppData\SASModelManager13.1\Channels**.

If you use a different directory name, then you must modify the channel persistent store directory location in the SAS Management Console. For more information, see "Modify

an Existing Channel or Channels Node Location" in Chapter 7 of *SAS Model Manager: Administrator's Guide*.

Dashboard Reports

When migrating from SAS Model Manager 2.3 to SAS Model Manager 13.1, you must manually copy the contents of the dashboard report directory from the source system to the target system.

Note: For information about how to configure the dashboard report directory, see "Configuring the Dashboard Reports Directory" in Chapter 4 of *SAS Model Manager: Administrator's Guide*.

To copy the content of the dashboard report directory from the source system to the target system:

1. Determine the location of the dashboard report directory on the source system.

   Note: Only a SAS Model Manager administrator can view the dashboard report directory. The SAS Model Manager administrator can also find the location of the dashboard report directory in the app.config file in the ***SASConfigDir*\Lev#\AnalyticsPlatform\apps\ModelManager** directory. The property name is **application.conf.dashboard.dir**.

   a. Log on to SAS Model Manager 2.3 on the source system.

   b. Select **Dashboard** ⇨ **Set Dashboard Report Directory**

   c. Note the dashboard report directory that is shown in the message dialog box as the source directory path (for example, **C:\Dashboard**), and then click **No**.

2. Determine the location of the dashboard report directory on the target system:

   a. From SAS Management Console, expand the **Application Management** node on the **Plug-ins** tab.

   b. Select and expand **Configuration Manager** ⇨ **SAS Application Infrastructure**.

   c. Right-click **Model Manager JavaSvcs 13.1** and select **Properties**.

   d. Click the **Advanced** tab to view the application dashboard report directory.

   e. Note the property value for **App.DashboardDir** as the target directory path and click **Cancel**. The default directory that is configured during installation is ***SASConfigDir*\Lev#\AppData\SASModelManager13.1\Dashboard**.

3. Copy all dashboard SAS data sets from the **data** subdirectory of the configured dashboard report directory on the source server into .dpo files and put them under a user-specified directory. Run the following code on the SAS Workspace Server in your source system to copy all data set content into a transportation file.

```
libname source "SAS-data-library";
filename tranfile "full-path-tran-file-name";
proc cport
   library=source
   file=tranfile
   memtype=data
   index=yes;
run;
quit;
```

4. Import all dashboard SAS data sets from the transportation (.dpo) file into the **data** subdirectory of the configured dashboard report directory on the target server. Run the following code on the SAS Workspace Server in your target system to import the transportation file.

```
libname target "SAS-data-library";
filename tranfile "full-path-tran-file-name";
proc cimport
    library=target
    file=tranfile
force;
run;
quit;
```

5. You can either manually copy the existing dashboard reports that are located in the **report** subdirectory from the source server to the target server, or you can regenerate the dashboard reports using the migrated data sets in SAS Model Manager 13.1.

HTML and Excel Reports

After migrating your SAS content on the WebDAV Server from SAS Model Manager 2.2 or 2.3 to SAS Model Manager 13.1 using the SAS Migration Utility, you must manually modify the URL for the images that are referenced in HTML and Excel format reports. The HTML and Excel format reports cannot be modified using the SAS Model Manager 13.1 user interface. Instead, use the DAVTree utility on the SAS 9.4 deployment to modify the content of the Excel files. Only a SAS administrator who has Write access to the WebDAV Server can access the DAVTree utility.

Note: The DAVTree utility can be found on the target machine in the **\sasconfigdir\Lev1\Web\Utilities** directory.

1. Run the **DAVTree.bat** file to open the DAVTree utility program. Select **File** ⇨ **Open**, enter the URL **http://*server-name:port*/SASContentServer/repository/default/ModelManager/**, and then click **OK**.
2. Enter the user name and password for the configured SAS administrator or SAS Model Manager administrator.
3. Expand the **MMROOT** folder.
4. Navigate to the **Reports** folder that is contained in the version folder for a project, and expand the report object node that contains the XLS file. Here is an example: dynamicLift.xls or dynamicLift.html.
5. Right-click the HTML or XLS file and select **Edit** to open it in the text editor.
6. Manually search the file for image source references. Here is an example: **src="http://myserver.com:8080/SASContentServer/repository/default/ModelManager/MMRoot/Test2/HMEQ/2013/Reports/dynamicLift_D2013-05-11T12.22/images/gplot.png"**.
7. Replace the full source path with the relative source path for each image in the file. For example, replace **"http://myserver.com:8080/SASContentServer/repository/default/ModelManager/MMRoot/Test2/HMEQ/2013/Reports/dynamicLift_D2013-05-11T12.22/images/gplot.png"** with **"./images/gplot.png"**.
8. Save the file and exit the text editor.

9. Repeat steps 3 though 8 for all migrated reports in HTML and Excel format.

Operating System Migration

If you are migrating from one UNIX operating system to another, or from a Windows 32-bit server to a Windows 64-bit server, then some post-installation tasks are required to complete the migration process. SAS Model Manager provides post-migration macros to assist with this process. Only SAS files on the WebDAV server in the ***ModelManagerDefaultRepository*\Project\Version\Resources** directory are handled by the post-migration macros. If you have SAS files in another directory location, you must manually migrate them.

Note:

- You must have access to the SAS deployment on the source system and target system to run these macros.
- Two of the macros are available for download at http://ftp.sas.com/techsup/download/blind/mm_migration.sas.
- The performance data macro %MM_migrationStep3() is available in the catalog sashelp.modelmgr.mm_migration.source.

Perform the following steps to ensure that all data, content, and link and filename references that are used by SAS Model Manager are accessible by the new SAS 9.4 deployment:

1. Run the %MM_migrationStep1() macro on page 19 on the SAS Workspace Server in your source system.
2. Run the %MM_migrationStep2() macro on page 21 on the SAS Workspace Server in your target system.
3. Run the %MM_migrationStep3() macro on page 21 on the SAS Workspace Server in your target system.

   Operating Environment Information
   This step is not needed for a migration from SAS Model Manager 12.1, 12.1 M1, or 12.3.

Note: For more information about the migration macros, see Appendix 1, "Post-Migration Macros," on page 19.

Here are migration example programs for your reference. You can modify them for your environment.

- "Migrating from SAS Model Manager 12.1 or 12.1 M1 to 13.1" on page 23
- "Migrating from SAS Model Manager 2.2 or 2.3, 3.1, or 3.1 M1 to 13.1" on page 24

Appendix 1

Post-Migration Macros

Overview

After migrating a SAS deployment from one UNIX operating system to another, or from a Windows 32-bit server to a Windows 64-bit server, use the SAS Model Manager post-migration macros. The macros ensure that all data, content, and link and filename references that are used by SAS Model Manager are accessible by the new SAS 9.4 deployment. This section describes what action each macro performs and the syntax that is used by the macros. For more information, see "Operating System Migration" on page 17.

Dictionary

%MM_migrationStep1() Macro

%MM_migrationStep1 macro ports all catalogs and SAS data sets from the source server into .cpo and .dpo files, and then places them in a user-specified directory.

Requirement: You must run this macro if you are migrating from one UNIX system to a different type of UNIX system, or if you are migrating from a Windows 32-bit server to a Windows 64-bit server. SAS 9.4 does not support Windows 32-bit systems. This macro does not need to be run when migrating from SAS Model Manager 12.3 or 13.1 to SAS Model Manager 13.1 on a Windows 64-Bit server.

Syntax

%MM_migrationStep1(
Server = *mySourceServer*,
PortNumber = *port*,
ServiceRegistryURL=*SAS-service-registry-URL*,
User = *mmUser*,
Password = *mmPassword*,
TargetDir= *network**port*);

Required Arguments

Server
specifies the server name or multicast address for the migration source server that hosts the model repository. The value depends on the SAS Model Manager version. SAS Model Manager 2.2 and 2.3 use the network machine name. SAS Model Manager 3.1, 3.1 M1, 12.1, and 12.1 M1 use the multicast address. This argument is ignored for a SAS Model Manager 12.3, 12.3 M1, and 13.1 to 13.1 migration, which uses the ServiceRegistryURL argument.

TIP The multicast address and port number are defined in the environment.properties file that is located in the ***sasconfigdir*\Lev#\ Web \Applications\RemoteServices** directory. For example, in your SAS Model Manager 12.3 environment in Windows, the file is located at **C:\SAS \Config\Lev1\Web\Applications\RemoteServices**.

Example `Server=myserver.com`

PortNumber
specifies the port number for the migration source server that hosts the model repository. The value depends on the SAS Model Manager version. For SAS Model Manager 2.2 and 2.3, use the SAS Analytics Platform port number for the source application server. For SAS Model Manager 3.1, 3.1 M1, 12.1, and 12.1 M1, use the source multicast port number for the application server. This argument is ignored for a SAS Model Manager 12.3, 12.3 M1, and 13.1 to 13.1 migration, which uses the ServiceRegistryURL argument.

Example `PortNumber=6411`

ServiceRegistryURL
specifies the service registry URL. The host is the server name where the middle-tier is installed and the port is the port number of the SAS Web Application Server.

Restriction This argument is valid only for SAS Model Manager 13.1.

Example
```
ServiceRegistryURL=
nrstr(http://myServer:80/SASWIPClientAccess/remote/ServiceRegistry)
```

User
specifies a valid SAS Model Manager user to access migration source server.

Password
specifies the password for the SAS Model Manager user to access migration source server.

TargetDir
specifies the directory of where all of the portable files will be saved.

Example `TargetDir=\\network1\transfer`

%MM_migrationStep2() Macro

%MM_migrationStep2 macro imports all of .cpo and .dpo files into the target server.

Requirement: You must run this macro if you are migrating from one UNIX system to a different type of UNIX system, or if you are migrating from a Windows 32-bit server to a Windows 64-bit server. SAS 9.4 does not support Windows 32-bit systems. This macro does not need to be run when migrating from SAS Model Manager 12.3 or 13.1 to SAS Model Manager 13.1 on a Windows 64-bit server.

Syntax

%MM_migrationStep2(ServiceRegistryURL=*service-registry-URL*,
User = *mmUser*,
Password = *mmPassword*,
SourceDir=*network**port*,
TargetDir= *myTargetDIR*);

Required Arguments

ServiceRegistryURL
specifies the service registry URL. The host is the server name where the middle-tier is installed and the port is the port number of the SAS Web Application Server.

Restriction This argument is valid only for SAS Model Manager 13.1.

Example
```
ServiceRegistryURL=
nrstr(http://myServer:80/SASWIPClientAccess/remote/ServiceRegistry)
```

User
specifies a valid SAS Model Manager user to access migration target server.

Password
specifies the password for the SAS Model Manager user to access migration target server.

SourceDir
specifies the directory where all portable files are saved.

Example `SourceDir=\\network\transfer`

TargetDir
specifies the directory where the migration result table will be saved. Here is an example:

```
TargetDir=\\network1\migration
```

%MM_migrationStep3() Macro

%MM_migrationStep3 macro converts a project's performance data to the 13.1 format. The performance data is converted for all versions within the projects that are being migrated.

Note: You do not need to execute this macro for migrations from SAS Model Manager 12.1, 12.1 M1, 12.3 M1, or 13.1.

Syntax

filename *mycode* catalog "sashelp.modelmgr.mm_migration.source";

%include *mycode*;

filename *mycode*;

libname *_mmlib* "*SASConfigDir*\Lev#\\AppData\SASModelManager12.3\Dashboard\Data";

%MM_migrationStep3(ServiceRegistryURL=*service-registry-URL*,
User = *mmUser*,
Password = *mmPassword*,
DashboardReportDataLib= *_mmlib*);

Required Arguments

ServiceRegistryURL
specifies the service registry URL. The host is the server name where the middle tier is installed and the port is the port number of the SAS Web Application Server.

Restriction This argument is valid only for SAS Model Manager 13.1.

Example
```
ServiceRegistryURL=
nrstr(http://myServer:80/SASWIPClientAccess/remote/ServiceRegistry)
```

User
specifies a valid SAS Model Manager user to access the migration target server.

Password
specifies the password for the SAS Model Manager user to access the migration target server.

DashboardReportDataLib
specifies the libref for the Dashboard directory path on the migration target server.

Example
```
DashboardReportDataLib=_mmlib
```

Appendix 2

Post-Migration Macro Examples

Migrating from SAS Model Manager 12.1 or 12.1 M1 to 13.1

This is an example of a migration from SAS Model Manager 12.1 or 12.1 M1 to 13.1.

1. Run the %MM_migrationStep1 macro on the SAS Workspace Server in your source system.

   Example Code A2.1 *%MM_migrationStep1() Macro*

   ```
   %MM_migrationStep1(
   Server = 239.20.28.76,
   PortNumber = 8651,
   User = mmUser,
   Password = mmPassword,
   TargetDir= \\network1\port
   );
   ```

2. Run the %MM_migrationStep2 macro on a SAS Workspace Server in your target system. This macro imports all .cpo and .dpo files into the SAS Content Server.

   Example Code A2.2 *%MM_migrationStep2() Macro*

   ```
   %MM_migrationStep2(
   ServiceRegistryURL=
      %nrstr(http://myServer:80/SASWIPClientAccess/remote/ServiceRegistry),
   User = mmUser,
   Password = mmPassword,
   SourceDir = \\network1\port,
   TargetDir = c:\myTargetDirectory
   );
   ```

Migrating from SAS Model Manager 2.2 or 2.3, 3.1, or 3.1 M1 to 13.1

This is an example of a migration from SAS Model Manager 2.2, 2.3, 3.1, or 3.1 M1 to 13.1.

1. Run the %MM_migrationStep1 macro on the SAS Workspace Server in your source system.

   Example Code A2.3 *%MM_migrationStep1() Macro*

   ```
   %MM_migrationStep1(
   Server = 239.33.56.83,
            /* Use the multicast address for SAS Model Manager 3.1 and 3.1 M1 */
            /* Use the server name for SAS Model Manager 2.2 and 2.3 */
   PortNumber = 8651,
            /* Use the port number 6411 for SAS Model Manager 2.2 and 2.3 */
   User = mmUser,
   Password = mmPassword,
   TargetDir= \\network1\transfer
   );
   ```

2. Run the %MM_migrationStep2 macro on a SAS Workspace Server in your target system. This macro imports all .cpo and .dpo files into the SAS Content Server.

   Example Code A2.4 *%MM_migrationStep2() Macro*

   ```
   %MM_migrationStep2(
   ServiceRegistryURL=
      %nrstr(http://myServer:80/SASWIPClientAccess/remote/ServiceRegistry),
   User = mmUser,
   Password = mmPassword,
   SourceDir =\\network1\transfer
   );
   ```

3. Run the %MM_migrationStep3 macro on a SAS Workspace Server in your target system. This macro converts the performance data to the 13.1 format.

   ```
   filename mycode catalog "sashelp.modelmgr.mm_migration.source";
   %include mycode;
   filename mycode;
   libname _mmlib
   "\SASConfigDir\Lev#\AppData\SASModelManager13.1\Dashboard\Data";
   %MM_migrationStep3(
      ServiceRegistryURL=
         %nrstr(http://myServer:80/SASWIPClientAccess/remote/ServiceRegistry),
      User = mmUser,
      Password = mmPassword,
      DashboardReportDataLib = _mmlib
   );
   ```