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SAS[®] Model Manager 14.1

Migration Guide

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SAS® Model Manager 14.1: Migration Guide

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Chapter 1

Introduction to SAS Model Manager 14.1 Migration

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Overview of SAS Model Manager 14.1 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 14.1 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 14.1, 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 14.1 on SAS 9.4, from the following types of deployments:

- SAS Model Manager 2.3 on SAS 9.2
- SAS Model Manager 3.1 on SAS 9.3
- SAS Model Manager 12.1 on SAS 9.3
- SAS Model Manager 12.3, 13.1, or 14.1 on SAS 9.4

Note: A SAS Model Manager 14.1 to 14.1 on SAS 9.4 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 *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 14.1 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 2.3 or later for use with SAS Model Manager 14.1. The SAS content is stored on 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 *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 14.1 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 14.1. 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 on 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 on 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 14.1 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 14.1, but must be accessible to the SAS Workspace Server that SAS Model Manager 14.1 uses. The SAS Model Manager 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 14.1. 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 2.3 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 2.3 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 14.1. If you have multiple directories in your SAS Model Manager 2.3 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 14.1 on SAS 9.4. For example, in a SAS Model Manager 2.3 environment, you can use **c:\Channels** as the storage location. Then copy the channels directory from the SAS

Workspace Server for SAS Model Manager 2.3 to the `c:\` directory on the SAS Workspace Server for SAS Model Manager 14.1. The tables then need to be made available to the application using the Data category from within SAS Model Manager 14.1.

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 2.3 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 “[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.

When you are migrating to SAS Model Manager 14.1 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 you are migrating from SAS Model Manager 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.

SAS Model Manager Database

By default, during a deployment of SAS Model Manager 14.1 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 publish results 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 for the SAS Decision Manager database.

Chapter 2

Performing Pre-migration Tasks

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Prepare for Migration

Before you begin your migration, perform these steps:

1. Review the SAS 9.4 QuickStart 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.

Pre-migration Steps

For information about the pre-migration tasks that you must perform, see “[Performing Pre-migration Tasks](#)” in *SAS Intelligence Platform: Migration Guide*. Here are some important steps to help with your migration:

- 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 on a SAS 9.3 system or SAS Model Manager 12.3 on a SAS 9.4 system.
- Back up the SAS Decision Manager database if you are migrating from SAS Model Manager 13.1 or 14.1 to SAS Model Manager 14.1 on a SAS 9.4 system.
- If you are moving to a new system, ensure that the required operating system user accounts that you use for SAS in your current operating system also exist in your

new operating system. These accounts are required for running scoring tests, performance definitions, retraining models, and scheduling jobs.

- Before you migrate to SAS Model Manager 14.1, you should record the database settings in your current environment. Verify that these settings are entered in the SAS Deployment Wizard when you run the migration.
 - If you are migrating from SAS Model Manager 12.1, or 12.3, record the database name and the user name for your SAS Model Manager database. The default database name is **mdlmgrdb**.
 - If you are migrating from SAS Model Manager 13.1 or later, record the database name and the user ID for your SAS Decision Manager Common Data Server database. The default database name is **dcmdb**.

You can find the database name in the **SASCONFIG/Web/WebAppServer/SASServer7_1/conf/server.xml** file on the middle-tier server. Find the resource with the name **sas/jdbc/DecisionManagerDS**, and look for the value of the **url** attribute. The database name is the text after the final forward slash (/) in the URL. For example, if the attribute is **url="jdbc:postgresql://host:10482/dcmdb"**, then the database name is **dcmdb**.

- 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 that corresponds to your database.
- If you are using Oracle for your database, record the information that is listed in the following table.

You enter this information in the SAS Decision Manager Database Properties and SAS Decision Manager Database JDBC Properties windows.

Table 2.1 SAS Deployment Wizard Information for Oracle

Prompt	Description
Host Name	Specifies the fully qualified host name of the server on which the database is installed.
Port	Specifies the port number that is used by the database. The default port for Oracle is 1521.
Directory containing JDBC driver jars	Specifies the location of the database vendor's JDBC JAR file. This file must be available on the middle tier and on any machine on which you are deploying SAS Model Manager in order to configure SAS Decision Manager database. See "Verify JDBC Drivers for Oracle" in <i>SAS Model Manager: Administrator's Guide</i> for more information.

Prompt	Description
Database SID or Service Name	<p>Specifies the Oracle database name. The database name must match either the service name or the Oracle site identifier (SID), both of which can be found in the tnsnames.ora file.</p> <p>If you select Use Oracle database name as a Service Name, then you must enter the service name that is specified in the tnsnames.ora file. For example, if you had the following entry in the tnsnames.ora file, you would enter monitordb in the Database SID or Service Name field:</p> <pre>monitordb = (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (COMMUNITY = TCP_COMM) (PROTOCOL = TCP) (HOST = hostname.your.company.com) (PORT = 1521))) (CONNECT_DATA = (SERVICE_NAME = monitordb)))</pre> <p><i>Note:</i> In the tnsnames.ora file, the Net Service Name and the Service Name fields must be the same.</p> <p>You can also find the Oracle SID in the tnsnames.ora file. Alternatively, you can run the following query using a database user ID on your Oracle instance:</p> <pre>select instance from v\$thread</pre>
User ID	Specifies the user ID of the database user whose credentials are used to access SAS Model Manager data on the server.
Password	Specifies the password of the user ID whose credentials are used to access SAS Model Manager data on the server.
Schema Pattern	Specifies the schema name for the database. The default schema is the same as the user ID.

- If you are using Oracle for your database, verify that you have the correct JDBC drivers. For more information, see [“Verify JDBC Drivers for Oracle” in SAS Model Manager: Administrator’s Guide](#).
- Use the SAS Migration Utility to create a migration package. If you are migrating from SAS Model Manager 12.1 on a SAS 9.3 system, or from SAS Model Manager 12.3, 13.1, or 14.1 on a SAS 9.4 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.

Note: If you are migrating from SAS Model Manager 12.1 or 12.3, the default name of the SAS Model Manager database is **mdlmgrdb**. Beginning with SAS Model

Manager 13.1, the database is called the SAS Decision Manager database. The default name is **dcmdb**.

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
SMU.mmapi.dbms.password	<not stored here>
SMU.mmapi.jdbc.driver	dbms.mmapi.jdbc.dir

For more information, see “[SAS Migration Utility Reference](#)” in *SAS Intelligence Platform: Migration Guide*, and “[SAS Model Manager Properties](#)” in *SAS Intelligence Platform: Migration Guide*.

Chapter 3

Migration Process

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Overview of the Migration Process

For a SAS Model Manager 2.3 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 14.1 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 14.1. After the automated process is complete, some manual steps must be performed. For more information, see [“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, 12.3, 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 14.1. During this process, you can migrate your content and configuration settings. To migrate and configure SAS Model Manager 14.1 on SAS 9.4, follow the steps that are specified in [“Install and Migrate SAS Interactively”](#) in *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 14.1 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 [“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 *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\93_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 14.1 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 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, “Performing Post-migration Tasks,”](#) on page 13 and [“Post-installation Configuration and Verification Steps”](#) in *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 steps and post-installation configuration and verification steps for SAS Model Manager, verify that you can successfully access and sign in to the SAS Model Manager 14.1 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

Performing Post-migration Tasks

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Post-migration Steps

After you have migrated to SAS Model Manager 14.1 on SAS 9.4, perform the following post-migration 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 2.3 or later. For a single-machine deployment, if the source machine has a deployment of SAS Model Manager 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.

For more information, see [“Dashboard Reports” on page 15](#) and [“Publishing Channels” on page 14](#).

2. Modify the URLs for the images that are referenced in the HTML and Excel reports. For more information, see [“HTML and Excel Reports” on page 17](#).
3. Run post-migration macros if you are migrating from one UNIX operating system to a different type of UNIX system, or from a Windows 32-bit server to a Windows 64-bit server. For more information, see [“Operating System Migration” on page 17](#).

4. Run the performance data macro %MM_migrationStep3() if you are migrating from SAS Model Manager 2.3 or 3.1. For more information, see [“%MM_migrationStep3\(\) Macro” on page 26](#).
5. Run the appropriate migration script to migrate the SAS Decision Manager database from SAS Model Manager 13.1 to 14.1:
 - [“SAS Decision Manager Common Data Server Database Migration” on page 18](#)
 - [“Oracle Database Migration” on page 21](#)

Note: If you are migrating from SAS Model Manager 14.1 to 14.1 (hardware upgrade) and you are using Oracle for your database, you do not need to run a migration script.
6. (Optional) Configure your deployment to use HTTPS. See [“Configure Your Deployment for HTTPS” in SAS Model Manager: Administrator's Guide](#) for more information.
7. Update your user group memberships, authorization, roles, and capabilities as needed. For more information, see [“Configuring Users, Groups, and Roles” in SAS Model Manager: Administrator's Guide](#).
8. (Optional) Add the Visual Analytics: Data Building and Data Management: Lineage roles to the Decision Manager Users group. See [“Administering Group and Role Membership” in SAS Model Manager: Administrator's Guide](#) for more information. These roles enable users to run SAS Visual Data Builder and view lineage information for rule flows.
9. (Optional) If you are migrating from SAS Model Manager 12.3 or earlier, perform post-installation configuration and verification steps for SAS Workflow. For more information, see [“Configuring SAS Workflow for Use with SAS Model Manager” in SAS Model Manager: Administrator's Guide](#).

See Also

[“Post-installation Configuration and Verification Steps” in SAS Model Manager: Administrator's Guide](#)

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 14.1 deployment to a new deployment of SAS Model Manager 14.1. 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
2.3	\SASConfigDir\Lev#\AnalyticsPlatform\apps \ModelManager\Channels

Version of SAS Model Manager	Default Directory Path
3.1	\SASConfigDir\Lev#\AppData \SASModelManager3.1\Channels
12.1	\SASConfigDir\Lev#\AppData \SASModelManager12.1\Channels
12.3	\SASConfigDir\Lev#\AppData \SASModelManager12.3\Channels
13.1	\SASConfigDir\Lev#\AppData \SASModelManager13.1\Channels
14.1	\SASConfigDir\Lev#\AppData \SASModelManager14.1\Channels

For example, in Windows the path might be `C:\SAS\Config\Lev1\AppData\SASModelManager14.1\Channels`.

If you use a different directory name, then you must modify the channel persistent store directory location in SAS Management Console. For more information, see [“Modify an Existing Channel or Channels Node Location”](#) in *SAS Model Manager: Administrator's Guide*.

Dashboard Reports

When migrating from SAS Model Manager 2.3 to SAS Model Manager 14.1, 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 [“Configure the Dashboard Reports Directory”](#) in *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** ⇒ **Enterprise Decision Manager 3.1**.
 - c. Right-click **Model Manager JavaSvcs 14.1** 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\SASModelManager14.1\Dashboard`.
3. Copy all dashboard SAS data sets from the **data** subdirectory of the configured dashboard report directory on the source server into the **data** subdirectory of the configured dashboard report directory on the target server.

Note: If the operating systems of your source system and target system are different, additional steps are needed.

To copy the dashboard SAS data sets from the source server to the target server:

- a. 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;
```

- b. 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;
```

4. 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 14.1.

HTML and Excel Reports

After migrating your SAS content on the WebDAV Server from SAS Model Manager 2.3 to SAS Model Manager 14.1 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 14.1 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 through 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 steps 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.
- The %MM_migrationStep1() and %MM_migrationStep2() macros are available in the SAS catalog sashelp.modelmgr.migration.source.
- The performance data macro %MM_migrationStep3() is available in the SAS 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 23 on the SAS Workspace Server in your source system.
2. Run the %MM_migrationStep2() macro on page 25 on the SAS Workspace Server in your target system.
3. Run the %MM_migrationStep3() macro on page 26 on the SAS Workspace Server in your target system.

Operating Environment Information

This step is needed for a migration from SAS Model Manager 2.3 and 3.1 to migrate performance data.

Note: For more information about the migration macros, see [Appendix 1, “Post-migration Macros,”](#) on page 23.

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

- “[Migrating from SAS Model Manager 12.1 to 14.1](#)” on page 27
- “[Migrating from SAS Model Manager 2.3 or 3.1 to 14.1](#)” on page 28

SAS Decision Manager Common Data Server Database Migration

Migrate to Version 3.1 for SAS Decision Manager Common Data Server (Single Tier)

If you are migrating from SAS Model Manager 13.1 or later to 14.1 and you are using the SAS Decision Manager Common Data Server, you must run the database migration script for your operating environment.

1. Verify that the SAS Decision Manager Common Data Server is running on both the source and target machines.
2. Shut down all SAS Web Application Server processes.
3. Run the database migration script for your operating environment. The script for Windows platforms is named `postgres-migration.bat`, and the script for UNIX platforms is named `postgres-migration.sh`. They are located in the following directory:

```
SASHome/
SASDecisionManagerCommonMidTierforDecisionManager/3.1/
Config/Deployment/Migration/
```

Note: This directory contains a README.TXT file that contains information about the parameters for these scripts.

When you run the migration script, substitute the correct values for the release you are migrating from, the server name, port number, and user ID for your database. The script prompts you to enter a password. The syntax for these scripts is as follows:

```
postgres-migration.[bat | sh] SASHome version
source_port source_host source_user source_db_name
target_port target_host target_admin target_user target_db_name
<target_exists>
```

SASHome

specifies the SAS Home installation directory location. In Windows operating environments, it is recommended that you enclose this parameter in double quotation marks.

version

specifies the version number of your current (source) database from which you are migrating content. Specify **2.2** or **3.1**.

Note: If you are migrating from SAS Model Manager 13.1, specify 2.2 for the version number. If you are migrating from SAS Model Manager 14.1, specify 3.1 for the version number.

source_port

specifies the port number of the database from which you are migrating content.

source_host

specifies the host name of the database from which you are migrating content.

source_user

specify the user ID for Decision Manager Common Middle Tier. This value must be a user ID that has access to all of the database content that needs to be migrated. You can find the correct value for this parameter in the SASCONFIG/Web/WebAppServer/SASServer7_1/conf/server.xml file on the middle-tier server for the source system. Specify the value of the **user** attribute of the resource with name **sas/jdbc/DecisionManagerDS**.

source_db_name

specifies the name of the database from which you are migrating content. You can find the correct value for this parameter in the SASCONFIG/Web/WebAppServer/SASServer7_1/conf/server.xml file on the middle-tier server for the source system. Find the resource with the name **sas/jdbc/DecisionManagerDS**, and look for the value of the **url** attribute. The database name is the text after the final forward slash (/) in the URL. For example, if the attribute is **url="jdbc:postgresql://host:10482/dcmdb"**, then specify **dcmdb** for *source_db_name*.

target_port

specifies the port number of the database to which you are migrating the content.

target_host

specifies the host name of the database to which you are migrating the content.

target_admin

specifies the user ID of the database administrator for the database to which you are migrating the content. This user ID is used to clean the target database and prepare it for the migrated content.

target_user

specifies a database user ID for the database to which you are migrating the content. This user ID is assigned ownership of the migrated content.

target_db_name

specifies the database name of the database to which you are migrating the content. The default target database name is **dcmdb**.

target_exists

specifies whether the target database exists. The default value is **YES**. If you have attempted to run this migration script but the migration failed, specify **NO**.

Normally, the script creates a backup of the source database. If you specify **NO**, the script does not create an additional backup.

Note: This parameter is optional.

Migrate to Version 3.1 for SAS Decision Manager Common Data Server (Multiple Tiers)

If you are migrating from SAS Model Manager 13.1 or later to 14.1 and you are using the SAS Decision Manager Common Data Server, you must run the database migration script for your operating environment. You must run the post-migration script on the server tier. In a multiple-tier environment, you must copy the script from the middle tier to the server tier before you run it.

1. Verify that the SAS Decision Manager Common Data Server is running on both the source and target machines.
2. Shut down all SAS Web Application Server processes.
3. Create a directory on the server-tier machine (the machine that is running that SAS Decision Manager Common Data Server) for the migration scripts. The directory can reside in the SAS Home installation directory (for example, *SASHome/DCMDB_Migrate*), but that is not a requirement.
4. Copy the **Config** directory on the middle-tier machine at *SASHome/SASDecisionManagerCommonMidTierforDecisionManager/3.1/Config* to the directory that you created on the server-tier machine.
5. Edit the database migration script for your platform that is in the directory that you created in [Step 3](#). Change the value that is specified for the `DCM_DATA_DIR=` parameter to point to the directory that you created in [Step 3](#) (for example, `DCM_DATA_DIR=$SAS_HOME/DCMDB_Migrate`).

The migration scripts are in the **Config/Deployment/Migration** subdirectory. The script for Windows platforms is named **postgres-migration.bat**, and the script for UNIX platforms is named **postgres-migration.sh**. If you specified **DCMDB_Migrate** for the new directory in [Step 3](#), the script that you need to edit is located in the directory *SASHome/DCMDB_Migrate/Config/Deployment/Migration/*.

6. Run the migration script on the server-tier machine as described in [Step 3](#) of “[Migrate to Version 3.1 for SAS Decision Manager Common Data Server \(Single Tier\)](#)” on [page 18](#). Substitute the correct values for the release that you are migrating from, the server name, port number, and user ID for your database. The script prompts you to enter passwords for different user accounts. Note the user account that is specified in the prompt to ensure that you enter the correct password.

Oracle Database Migration

The scripts for migrating an Oracle database are located in the following directory:

`SASHome/SASDecisionManagerCommonMidTierforDecisionManager/3.1/Config/Deployment/dbscript/oracle/migration/.`

To migrate an Oracle database from SAS Model Manager 13.1 to 14.1, run the `migration_brm_version_to_brm_3.1.sql` script for your current release of SAS Model Manager.

Note: If migrating from SAS Model Manager 13.1, the version of the database is 2.2.

For example, you can use SQL*Plus to run the script to migrate from SAS Model Manager 13.1 to 14.1 as follows:

```
sqlplus username@tnsname @/install/SASHome/  
SASDecisionManagerCommonMidTierforDecisionManager/3.1/Config/Deployment/  
dbscript/oracle/migration/migration_brm_2.2_to_brm_3.1.sql schemaName
```


Appendix 1

Post-migration Macros

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Overview of Post-migration Macros

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, 13.1, or 14.1 to SAS Model Manager 14.1 on a Windows 64-Bit server.

Syntax

```
filename mycode catalog "sashelp.modelmgr.migration.source";
%include mycode;
```

```
filename mycode;
%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 2.3 uses the network machine name. SAS Model Manager 3.1 and 12.1 use the multicast address. This argument is ignored for a SAS Model Manager 12.3, 13.1, and 14.1 to 14.1 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 2.3, use the SAS Analytics Platform port number for the source application server. For SAS Model Manager 3.1 and 12.1, use the source multicast port number for the application server. This argument is ignored for a SAS Model Manager 12.3, 13.1 and 14.1 to 14.1 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 14.1.

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 where all of the portable files are 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, 13.1, or 14.1 to SAS Model Manager 14.1 on a Windows 64-bit server.

Syntax

```
filename mycode catalog "sashelp.modelmgr.migration.source";
%include mycode;
filename mycode;
%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 12.3 or later.

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 is saved. Here is an example:

TargetDir=*\\network1\migration*

%MM_migrationStep3() Macro

%MM_migrationStep3 macro converts a project's performance data to the 14.1 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, 12.3, 13.1 or 14.1.

Syntax

```
filename mycode catalog "sashelp.modelmgr.mm_migration.source";
%include mycode;
filename mycode;
libname _mmlib "SASConfigDir\Lev#\AppData\SASModelManager14.1\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 14.1.

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

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Migrating from SAS Model Manager 12.1 to 14.1

This is an example of a migration from SAS Model Manager 12.1 to 14.1.

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

Example Code A2.1 %MM_migrationStep1() Macro

```
filename mycode catalog "sashelp.modelmgr.migration.source";
%include mycode;
filename mycode;%MM_migrationStep1(
  Server = 239.20.28.76,
  PortNumber = 8561,
  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

```
filename mycode catalog "sashelp.modelmgr.migration.source";
%include mycode;
filename mycode;%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 2.3 or 3.1 to 14.1

This is an example of a migration from SAS Model Manager 2.3 or 3.1 to 14.1.

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

Example Code A2.3 %MM_migrationStep1() Macro

```
filename mycode catalog "sashelp.modelmgr.migration.source";
%include mycode;
filename mycode;%MM_migrationStep1(
Server = 239.33.56.83,
    /* Use the multicast address for SAS Model Manager 3.1 */
    /* Use the server name for SAS Model Manager 2.3 */
PortNumber = 8561,
    /* Use the port number 6411 for SAS Model Manager 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

```
filename mycode catalog "sashelp.modelmgr.migration.source";
%include mycode;
filename mycode;%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 14.1 format.

```
filename mycode catalog "sashelp.modelmgr.mm_migration.source";
%include mycode;
filename mycode;
libname _mmlib
"\SASConfigDir\Lev#\AppData\SASModelManager14.1\Dashboard\Data";
%MM_migrationStep3(
ServiceRegistryURL=
    %nrstr(http://myServer:80/SASWIPClientAccess/remote/ServiceRegistry),
User = mmUser,
Password = mmPassword,
DashboardReportDataLib = _mmlib
);
```

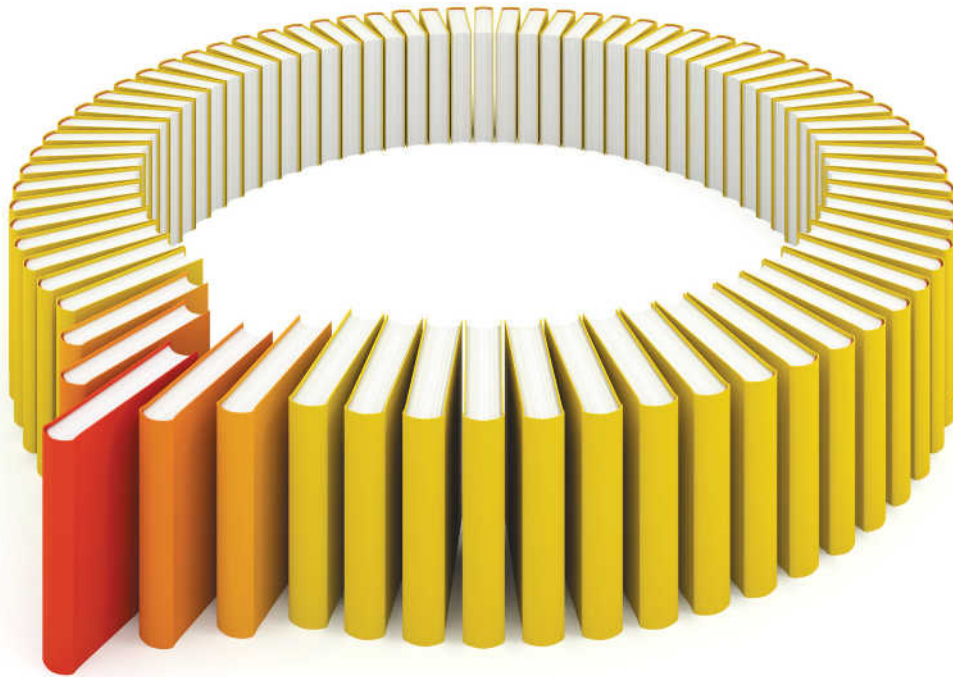

Recommended Reading

Here is the recommended reading list for this title.

- *SAS Intelligence Platform: Migration Guide*
- *SAS Model Manager: Administrator's Guide*
- *SAS Model Manager: User's Guide*

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