

# **SAS<sup>®</sup> Model Manager 3.1 Migration Guide**



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**SAS® Model Manager 3.1: Migration Guide**

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# Recommended Reading

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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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## Chapter 1

# Introduction to SAS Model Manager 3.1 Migration

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## Overview of SAS Model Manager 3.1 Migration

This document supplements the *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, and how to configure the latest release of SAS Model Manager 3.1 on SAS 9.3 using the SAS Migration Utility and the SAS Deployment Wizard. This document also provides post-migration steps that must be performed manually to complete the migration process. When you run the SAS Deployment Wizard to upgrade to the latest release of SAS Model Manager 3.1, migration of system configurations and content, including SAS Model Manager content, is performed during the installation and configuration of SAS 9.3. All products that are in a deployment are migrated at the same time.

You can migrate to the latest release of SAS Model Manager 3.1 on SAS 9.3, from the following types of deployments:

- SAS Model Manager 2.1 on SAS 9.1.3
- SAS Model Manager 2.2 on SAS 9.2
- SAS Model Manager 2.3 on SAS 9.2
- SAS Model Manager 3.1 on SAS 9.3
- SAS Model Manager 3.1 M1 on SAS 9.3

*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 9.3.

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 reference the [Migration focus area](http://support.sas.com) in the Knowledge Base, available at <http://support.sas.com>.

SAS Model Manager 3.1 is new for SAS 9.3. It contains enhancements and changes that make it easier to integrate with SAS 9.3. In addition, deployment functionality has been

enhanced. The first maintenance release of SAS Model Manager 3.1 includes additional enhancements and fixes. For more information, see the *SAS Model Manager: User's Guide* or the *SAS Model Manager: Administrator's Guide*.

You can migrate SAS content from SAS Model Manager 2.1 or later for use with the latest version of SAS Model Manager 3.1. 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 9.3 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 9.3:

- The SAS Migration Utility produces a package of SAS 9.1.3, SAS 9.2, or SAS 9.3 content and configuration settings that the SAS Deployment Wizard uses during the SAS 9.3 installation and configuration.
- The SAS Deployment Wizard installs and initially configures SAS 9.3 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 9.3.

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

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## 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. Only the metadata definitions for the directory paths are copied to the new SAS Metadata Server repository.

### SAS Metadata Server

When you install and configure the latest release of SAS Model Manager 3.1 on SAS 9.3, you can migrate SAS Metadata Server objects from a previous deployment of SAS 9.1.3, SAS 9.2, or SAS 9.3 for use with SAS 9.3 applications including SAS Model Manager 3.1. 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 9.1.3 Metadata Server or the SAS 9.2 Metadata Server for use with the SAS 9.3 Metadata Server.

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



### Mining Result Object

When you export a project 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 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.

## 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 3.1 uses is defined when 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 is different in SAS Model Manager 3.1. This data does not need to be migrated to work with SAS Model Manager 3.1, but must be accessible to the SAS Workspace Server that SAS Model Manager 3.1 uses. The SAS Model Manager 2.1, 2.2, or 2.3 data sources and directories can be made available to the new SAS Workspace Server by copying the directories or making the network directories available to the new SAS Workspace Server for SAS Model Manager 3.1. 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 2.1 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 2.1 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 3.1. If you have multiple directories in your SAS Model Manager 2.1 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 3.1 on SAS 9.3. For example, in a SAS Model Manager 2.1 environment, you can use **c:** \Channels as the storage location. Then copy the channels directory from the SAS Workspace Server for SAS Model Manager 2.1 to the **c:** \ directory on the SAS Workspace Server for SAS Model Manager 3.1.

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 2.2, 2.3, and 3.1 use the SAS Content Server as the WebDAV Server. SAS Model Manager 2.1 uses the Xythos WebDAV Server to store content. 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 against SAS 9.1.3, SAS 9.2, or SAS 9.3. For more information, see Appendix 1, “SAS Migration Utility Reference,” in *SAS Intelligence Platform: Migration Guide*. During the SAS 9.3 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.

## Chapter 2

# Preliminary Steps for Migration

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## Prepare for Migration

Before you begin your migration, perform these steps:

1. [Review the SAS 9.3 Quick Start Guide](#).
2. Review the *SAS Intelligence Platform: Migration Guide*.
3. [Design your migration](#).
4. [Perform pre-migration tasks](#).

Since 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.

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## Review the Quick Start Guide

When you create a SAS Software Depot for your SAS 9.3 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 9.3 installation documentation that is available from the SAS Install Center.

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## 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.

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## Perform Pre-Migration Tasks

For information about the pre-migration steps that you must perform, see Chapter 3, “Performing Pre-migration Tasks,” in *SAS Intelligence Platform: Migration Guide*. Here is a list of the most important steps:

- Back up your SAS 9.1.3, SAS 9.2, or SAS 9.3 system, including servers and desktop clients.
- Perform any required maintenance that is required to meet minimum baselines.
- Determine whether you can use a standard deployment plan to install SAS 9.3 and SAS Model Manager 3.1 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 in SAS 9.1.3, SAS 9.2, or SAS 9.3 also exist in your new operating system, such as **sasadm**, **sastrust**, and **sasdemo**. The migration process requires the same operating system user accounts that you used with SAS Model Manager 2.1 on SAS 9.1.3, SAS Model Manager 2.2 or 2.3 on SAS 9.2, and SAS Model Manager 3.1 on SAS 9.3.
- Install third-party software.
- Create a SAS Software Depot. For more information, see the “Creating SAS Software Depots” in Chapter 3 of *SAS Intelligence Platform: Migration Guide*.
- Use the SAS Migration Utility to create a migration package. For more information, see Appendix 1, “SAS Migration Utility Reference,” in *SAS Intelligence Platform: Migration Guide*.

## Chapter 3

# Migration Deployment Process

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## Overview of Migration Deployment Process

For a SAS Model Manager 2.1 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 3.1 installation.

After you have designed your migration and completed other preliminary steps, you can perform a migration assessment by running the SAS Migration Utility on the machine where the SAS 9.1.3, SAS 9.2, or SAS 9.3 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 9.1.3, SAS 9.2, or SAS 9.3 content and configuration settings that the SAS Deployment Wizard uses when you install and configure SAS 9.3 and SAS Model Manager 3.1. After the automated process there are some manual steps that 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 the migration package contains the content from the WebDAV server (Xyθος or SAS Content Server). The Xyθος content for SAS 9.1.3 is in the directory `<outputDir>\<host-name>\WFS\Area1`. The SAS Content Server content for SAS 9.2 and 9.3 is in the directory `<outputDir>\<host-name>\SCS\Repository`. You can then begin to install and configure SAS 9.3 and SAS Model Manager 3.1. During this process, you can migrate your content and configuration settings. To migrate and configure SAS Model Manager 3.1 on SAS 9.3, follow the steps that are specified in “Install and Migrate SAS Interactively” in Chapter 4 of *SAS Intelligence Platform: Migration Guide*.

Here is a high-level summary of the migration and configuration tasks for special consideration for the SAS Model Manager 3.1 on SAS 9.3 installation and migration.

1. Begin the deployment on the SAS Metadata Server. For a Windows installation, select the **setup.exe** file that you downloaded from the SAS Software Depot. For a UNIX installation, select **setup.sh**. This executable program launches the SAS Deployment Wizard, which helps you install and configure SAS 9.3 products.

For more information, see Chapter 4, “Installing SAS 9.3 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 **Model Manager, three**

**machines, JBoss.** 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:* If you are performing a SAS Model Manager 3.1 to 3.1 migration the directory paths that are specified for SAS Model Manager in SAS Management Console on the source system are used as the default directory paths for the target system. For SAS Model Manager migrations from 2.1, 2.2, or 2.3 to SAS Model Manager 3.1, the default directory locations for the target system are used. You must choose a prompting level for a custom configuration to specify different directory paths on 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\913_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 3.1 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, as well as 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 “[Post-Migration Manual Steps](#)” on page 11 and “Post-Installation Verification and Configuration of SAS Model Manager” in Chapter 2 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 the post-migration manual steps, and post-installation verification and configuration steps for SAS Model Manager, verify that you can successfully launch the SAS Model Manager 3.1 client application and that your migrated SAS content is accessible.
  - a. Select **Start** ⇒ **Programs** ⇒ **SAS** ⇒ **SAS Model Manager Client 3.1**.
  - b. When the **Log On** window appears, accept the default SAS environment, enter a valid SAS Model Manager user ID and password, and then click **Log On**. The user must have permissions to launch 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

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## Overview

After you have migrated to the latest release of SAS Model Manager 3.1 on SAS 9.3, perform the following post-migration manual steps:

1. Modify user-defined life cycle templates. (SAS Model Manager 2.1 only)
2. 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 2.3, 3.1, or 3.1 M1 deployment of SAS Model Manager. For a single-machine deployment, if the source machine has a SAS Model Manager 3.1 or 3.1 M1 deployment, 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.

3. Modify the URLs for the images that are referenced in the HTML and Excel reports.
4. Run post-migration macros if you are migrating from one UNIX operating system to another, or from a Windows 32-bit server to a Windows 64-bit server.

See the following topics for details:

- [“Life Cycle Templates” on page 12](#)
- [“Publishing Channels” on page 13](#)
- [“Dashboard Reports” on page 14](#)
- [“HTML and Excel Reports” on page 16](#)

- “Operating System Migration” on page 17

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## Life Cycle Templates

When you are migrating to SAS Model Manager 3.1 from SAS Model Manager 2.1 or later, all custom content from the **ext** directory is automatically copied to the SAS Model Manager 3.1 **ext** directory as part of the migration process. This content includes all user-defined life cycle templates, model templates, report templates, and SAS code files.

Here are the **ext** directory locations for the different versions of SAS Model Manager:

Version of SAS Model Manager	Directory Location
2.1	C:\Program Files\SAS\SASAPCore\apps\ \ModelManagement\ext
2.2 and 2.3	\sasconfigdir\Lev#\AnalyticsPlatform\ \apps\ModelManager\ext
3.1 and 3.1 M1	\sasconfigdir\Lev#\AppData\ \SASModelManager3.1\ext

If the template files are from SAS Model Manager 2.1, the SAS Demo User and SAS Administrator participants in any custom life cycle templates must be changed. To check to see whether your custom life cycle templates contain either of those users in the participant list, do the following:

*Note:* You must use the DAVTree utility in your SAS 9.3 deployment to modify files that are located on the WebDAV Server. Only a SAS Administrator with Write access can access the DAVTree utility. The DAVTree utility can be found 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 **ConfigTemplates** and **ext** directories.
4. Right-click the custom Life Cycle Template XML file and select **Edit** to open it in the text editor.
5. Replace all occurrences of **SAS Demo User** with the user name **sasdemo**. For example, replace the value of the name for **participant id= "1"** in the XML file.

### Example Code 4.1 Before Change

```
<Participants>
  <Participant id="1" name="SAS Demo User"/>
</Participants>
```

**Example Code 4.2 After Change**

```
<Participants>
  <Participant id="1" name="sasdemo"/>
</Participants>
```

6. Replace all occurrences of **SAS Administrator** with the user that you configured as the SAS Model Manager administrator (for example, the user name **mdlmgadmin**).
7. Increment the version number of the Life Cycle Template XML file by 1. For example, change the value of **version** in the example XML file from "5" to "6".

**Example Code 4.3 Before Change**

```
<LifecycleTemplate
  name="Custom Lifecycle Template"
  version="5"
  isDefault="false"
  description="A custom lifecycle template for users."
>
```

**Example Code 4.4 After Change**

```
<LifecycleTemplate
  name="Custom Lifecycle Template"
  version="6"
  isDefault="false"
  description="A custom lifecycle template for users."
>
```

8. Save the file.
9. Repeat steps 1 through 5 for each custom life cycle template.
10. Restart the application server where the SAS Model Manager EAR was installed in order for the changes to take effect.

---

## Publishing Channels

When migrating from 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 3.1 deployment to a new deployment of SAS Model Manager 3.1. If you use the same directory name, you do not need to copy the contents of the channels directory. In SAS Model Manager 2.1 the channels directory was set up manually. For SAS Model Manager 2.2 and 2.3, the default directory path is `\SASConfigDir\Lev#\AnalyticsPlatform\apps\ModelManager\Channels`. In SAS Model Manager 3.1 and 3.1 M1 the default directory path is `\SASConfigDir\Lev#\AppData\SASModelManager3.1\Channels`. For example, in Windows the path might be `C:\SAS\Config\Lev1\AppData\SASModelManager3.1\Channels`.

If you use a different directory name, then you must modify the channel persistent store directory location. For more information, see "Modify an Existing Channel or Channels Node Location" in Chapter 4 of *SAS Model Manager: Administrator's Guide*.

In SAS 9.2, security configurations were changed. If you are moving from SAS 9.1.3 to SAS 9.3, all migrated publishing channels that SAS Model Manager might use must be modified in the new SAS 9.3 deployment to give SAS Model Manager users additional permissions.

To grant user permissions to migrated publishing channels, follow these steps:

1. Log in to SAS Management Console using the SAS Administrator account.
2. Expand the **Publishing Framework** ⇒ **Foundation** ⇒ **Channels** folders.
3. Expand any custom folders that might have been created.
4. Right-click the migrated channel definition and select **Properties** to view the channel properties dialog-box.
5. Click the **Authorization** tab.
6. Click **Add**.
7. Select **Model Manager Administrator Users** and **Model Manager Advanced Users** under the **Available Identities** panel and add them to the **Selected Identities** panel.
8. Click **OK**.
9. Select **Model Manager Administrator Users** and grant the **WriteMetadata** permission to this group by clicking the **Grant** column in the **Effective Permissions** panel.
10. Select **Model Manager Advanced Users** and grant the **WriteMetadata** permission to this group by clicking the **Grant** column in the **Effective Permissions** panel.
11. Click **OK**.
12. Repeat steps 4 through 11 for each migrated SAS Model Manager channel.

*Note:* When you omit these steps, the following error appears in the **Details** section of the error message dialog box: `ERROR: The user does not have permission to perform this action.`

---

## Dashboard Reports

When migrating from SAS Model Manager 2.3 to the latest release SAS Model Manager 3.1, 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 2 of *SAS Model Manager: Administrator's Guide*.

To copy the content of the dashboard report directory from the source system to the target system, follow these steps:

1. To determine the location of the dashboard report directory on the source system, follow these steps:

*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. To determine the location of the dashboard report directory on the target system, follow these steps:
    - a. From the 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 3.1** and select **Properties**.
    - d. Click the **Settings** tab and then select **Model Manager Dashboard Options**.
    - e. Click the **Advanced** tab to view the application dashboard report directory.
    - f. 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\SASModelManager3.1\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 3.1.

---

## HTML and Excel Reports

### Reports in HTML Format

After migrating your SAS content on the WebDAV Server from SAS Model Manager 2.1 or later to the SAS Model Manager 3.1 using the SAS Migration Utility, you must manually modify the URL paths to the images that are referenced in the HTML reports.

1. Log on to SAS Model Manager 3.1.
2. Navigate to the **Reports** directory for the version, under the project folder and expand the folder.
3. Expand the report object and select the file that has the .html extension. The HTML code is displayed in the **Content** window to the right.
4. Select the **Edit** check box in the top right.
5. Right-click in the Content window and select **Find**.
6. Enter the text **src=** and select **Find Next**.
7. Select and copy the URL text from **http** to the end of the report object name. For example: `http://myserver.com:8080/SASContentServer/repository/default/ModelManager/MMRoot/Test/HMEQ/2010/Reports/dynamicLift_D2011-05-11T12.25`
8. Paste the URL text from the previous step into the **Find text** field, enter a period in the **Replace with** field, and then click **Replace Next** or **Replace All**. In the following example, the source path is changed from the full source path "`http://myserver.com:8080/SASContentServer/repository/default/ModelManager/MMRoot/Test/HMEQ/2010/Reports/dynamicLift_D2011-05-11T12.25/images/gplot.png`" to the relative source path "`./images/gplot.png`".
9. Click **Commit**.
10. Repeat steps 2 through 9 for all HTML reports that were migrated from SAS Model Manager 2.1, 2.2, or 2.3 to the latest release of SAS Model Manager 3.1.

### Reports in Excel Format

After migrating your SAS content on the WebDAV Server from SAS Model Manager 2.1 or later to the SAS Model Manager 3.1 using the SAS Migration Utility, you must manually modify the URL to the graphic images that are referenced in the Excel format reports. The Excel format reports cannot be modified using the SAS Model Manager 3.1 client. Instead, use the DAVTree utility on the SAS 9.3 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.
5. Right-click the XLS file and select **Edit** to open it in the text editor.
6. Manually search the file for image source references. For example, `src="http://myserver.com:8080/SASContentServer/repository/default/ModelManager/MMRoot/Test2/HMEQ/2010/Reports/dynamicLift_D2011-05-11T12.22/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/2010/Reports/dynamicLift_D2011-05-11T12.22/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 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 the 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 macros are available for download at [http://ftp.sas.com/techsup/download/blind/mm\\_migration.sas](http://ftp.sas.com/techsup/download/blind/mm_migration.sas).

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 9.3 deployment:

1. Run the `%MM_migrationStep0()` macro on page 19 on the SAS Workspace Server in your target system.

*Operating Environment Information*

This step is only for a migration from SAS Model Manager 2.1.

2. Run the `%MM_migrationStep1()` macro on page 20 on the SAS Workspace Server in your source system.
3. Run the `%MM_migrationStep2()` macro on page 21 on the SAS Workspace Server in your target system.

*Note:* For more information about the migration macros, see [Appendix 1, “SAS Model Manager Post-Migration Macros,”](#) on page 19.

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

- [“Migrating from SAS Model Manager 2.3 to 3.1”](#) on page 23
- [“Migrating from SAS Model Manager 2.1 to 3.1”](#) on page 24



## Appendix 1

# SAS Model Manager Post-Migration Macros

---

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%MM_migrationStep0() Macro . . . . .	19
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---

## Overview of Post-Migration Macro Definitions

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 to ensure that all data, content, and link and filename references that are used by SAS Model Manager are accessible by the new SAS 9.3 deployment. This section describes what action each macro performs and the syntax used by the macros. For more information, see [“Operating System Migration” on page 17](#).

---

## Dictionary

---

### %MM\_migrationStep0() Macro

%MM\_migrationStep0 macro retrieves the URL property values of all project versions that are being migrated from the source server and places the result table in a user-specified directory.

---

#### Syntax

```
%MM_migrationStep0(MMRootURL = mmRootURL,
Server = myTargetServer, PortNumber = port,
User = mmUser, Password = mmPassword,
TargetDir= \network\port);
```

## Required Arguments

### MMRootURL

specifies the URL of MMRoot in the WebDAV Server of the migration source system. For example:

```
MMRootURL =%nrstr(http://myServer:8300/ModelManager
```

**TIP** To find the URL of the MMRoot in SAS Model Manager 2.1:

1. Log on to the SAS Model Manager 2.1 client.
2. Select the **MMRoot** folder in the Project Tree perspective.
3. In the **Properties** panel, locate the URL system property. Use this value for the MMRootURL variable.

### Server

specifies the domain name or multicast address for the migration target server that hosts the model repository. The value depends on the SAS Model Manager version. SAS Model Manager 3.1 uses the multicast address, but versions prior to version 3.1 use the server name. For example:

```
Server=myServer.com
```

**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 3.1 environment in Windows, the file is located at `C:\SAS\Config\Lev1\Web\Applications\RemoteServices`.

### PortNumber

specifies the port number for the migration target server that hosts the model repository. For example:

```
PortNumber=8561
```

### User

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

### Password

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

### TargetDir

specifies the directory that will save all portable files. For example:

```
TargetDir=c:\myTargetDirectory
```

---

## %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.

---

## Syntax

```
%MM_migrationStep1(<MigrateFrom21=Y or N>, Server = mySourceServer, PortNumber = port,  
User = mmUser, Password = mmPassword,  
TargetDir= \network\port);
```

## Required Arguments

### Server

specifies the domain name or multicast address for the migration source server that hosts the model repository. The value depends on the Model Manager version. Model Manager 3.1 uses multicast address, prior to 3.1 use the server name. For example:

```
Server=myserver.com
```

**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 3.1 environment in Windows, the file is located at `C:\SAS\Config\Lev1\Web\Applications\RemoteServices`.

### PortNumber

specifies the port number for the migration source server that hosts the model repository. For example:

```
PortNumber=6411
```

### 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 that will save all portable files. For example:

```
TargetDir=c:\myTargetDirectory
```

## Optional Argument

### MigrateFrom21

specifies whether the migration is from SAS Model Manager 2.1. The values can be **Y** or **N**. This argument is not required. For example:

```
MigrateFrom21=Y
```

---

## %MM\_migrationStep2() Macro

%MM\_migrationStep2 macro imports all of .cpo and .dpo files into the target server.

---

## Syntax

```
%MM_migrationStep2(Server = myTargetServer, PortNumber = port,  
User = mmUser, Password = mmPassword,  
SourceDir=\network\port,  
TargetDir= myTargetDIR);
```

## Required Arguments

### Server

specifies the domain name or multicast address for the migration target server that hosts the model repository. The value depends on the SAS Model Manager version.

SAS Model Manager 3.1 uses the multicast address, but prior to 3.1 use the server name. For example:

```
Server=myserver.com
```

**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 3.1 environment in Windows, the file is located at `C:\SAS\Config\Lev1\Web\Applications\RemoteServices`.

**PortNumber**

specifies the port number for the migration target server that hosts the model repository. For example:

```
PortNumber=8561
```

**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. For example:

```
SourceDir=c:\mySourceDirectory
```

**TargetDir**

specifies the directory where the migration result table will be saved. For example:

```
TargetDir=c:\myTargetDirectory
```

## Appendix 2

# Post-Migration Macro Examples

<b>Migrating from SAS Model Manager 2.3 to 3.1</b> . . . . .	<b>23</b>
<b>Migrating from SAS Model Manager 2.1 to 3.1</b> . . . . .	<b>24</b>

## Migrating from SAS Model Manager 2.3 to 3.1

This is an example of a migration from SAS Model Manager 2.3 to 3.1. This example can also be used when migrating from 2.2 or 3.1 to 3.1 M1.

1. Run the %MM\_migrationStep1 macro on the SAS Workspace Server in your source system.

**Example Code A2.1** %MM\_migrationStep1() Macro

```
%MM_migrationStep1
(
MigrateFrom21=N,
Server = mySourceServer,
PortNumber = 6411,
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 in to the SAS Content Server.

**Example Code A2.2** %MM\_migrationStep2() Macro

```
(
Server = myTargetServer,
PortNumber = 8651,
User = mmUser,
Password = mmPassword,
SourceDir = \\network1\port,
TargetDir = c:\myTargetDirectory
);
```

---

## Migrating from SAS Model Manager 2.1 to 3.1

This is an example of a migration from SAS Model Manager 2.1 to 3.1

1. Run the %MM\_migrationStep0() macro on the SAS Workspace Server in your target system.

**Example Code A2.3** %MM\_migrationStep0() Macro

```
(
MMRootURL = %nrstr(http://mySourceServer:8300/ModelManager),
Server = myTargetServer,
PortNumber = 8651,
User = mmUser,
Password = mmPassword,
TargetDir= \\network1\port
);
```

2. Run the %MM\_migrationStep1() macro on the SAS Workspace Server in your source system.

**Example Code A2.4** %MM\_migrationStep1() Macro

```
%MM_migrationStep1
(
MigrateFrom21=Y,
Server = mySourceServer,
PortNumber = 6411,
User = mmUser,
Password = mmPassword,
TargetDir= \\network1\port
);
```

3. Run the %MM\_migrationStep2() macro at workspace server in your target system. This macro imports all .cpo and .dpo files in to the SAS Content Server.

**Example Code A2.5** %MM\_migrationStep2() Macro

```
(
Server = myTargetServer,
PortNumber = 8651,
User = mmUser,
Password = mmPassword,
SourceDir = \\network1\port,
TargetDir = c:\myTargetDirectory
);
```