

Paper 289-2008

Administration Tips for Your Information Maps

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ABSTRACT

SAS® Information Maps are consumed by many of the SAS Business Intelligence clients such as SAS® Web Report Studio, SAS® Enterprise Guide®, SAS® Add-In for Microsoft Office, and the SAS® Information Delivery Portal. Information maps often need to be updated, modified, or moved in order to meet changing business needs. This paper explores the best ways to perform these tasks and others such as the following:

- changing existing table and library names
- adding new columns to existing maps
- determining map and report dependencies using the SAS® BI Lineage Plug-in
- deleting columns from a map
- moving information maps

INTRODUCTION

The topics presented in this paper were chosen based on the frequency of questions to SAS Technical Support about working with SAS Information Maps. In addition, this paper introduces a new tool, the SAS BI Lineage Plug-in, which takes the guess work out of knowing map and report dependencies.

ASSOCIATING AN INFORMATION MAP WITH A DIFFERENT TABLE

Often customers receive monthly, weekly, or even daily, tables that have different table names. This section explains how you can associate an information map with a different table that has the same structure as the original table. In this example, a map that was built using the CLASS table from the SASHELP library is being modified to use the Global_Forum_Class table from the ORGOLD library.

These steps show you how to associate an information map with a different table:

1. In SAS® Management Console, beneath BI Manager, navigate to the location of your map. Maps are typically located at **/BIP Tree/ReportStudio/Maps**.
2. On the information map name, right-click and select **Export** to launch the Export Wizard (see Figure 1).

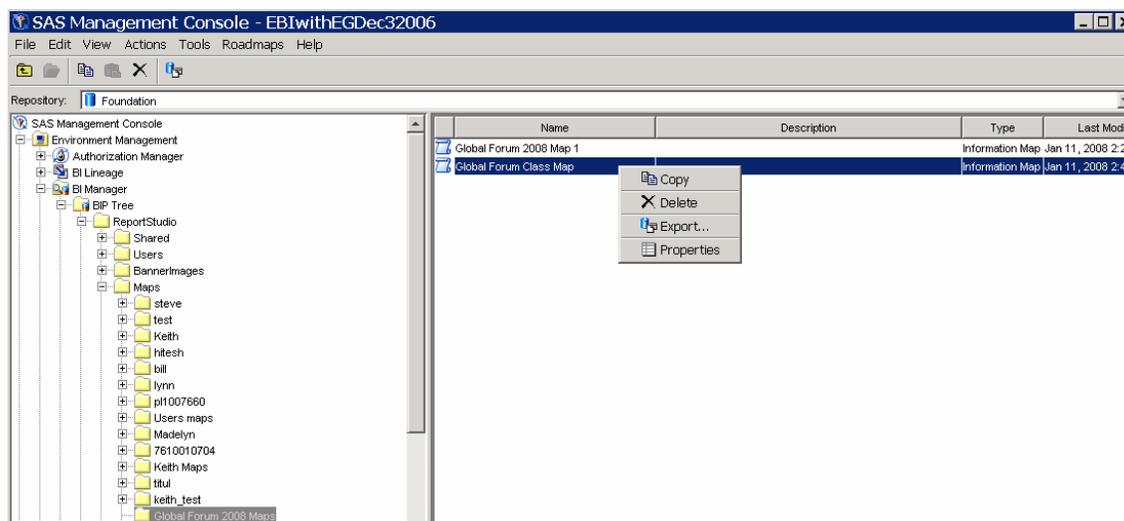


Figure 1. Map Location and Options Available for a Map

- On page 1 of the wizard, click **Next** to accept the default file name, or enter a new name and location (see Figure 2).

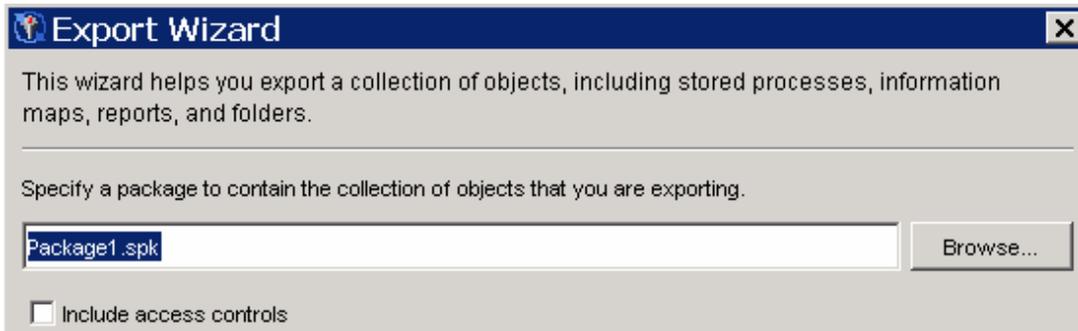


Figure 2. Location to Save the Export Package

- On page 2 of the wizard, note that the map is checked. Select the map and view the **Dependencies** tab at the bottom of the page (see Figure 3). Do **not** select any of the dependency items. You want to replace the dependencies.

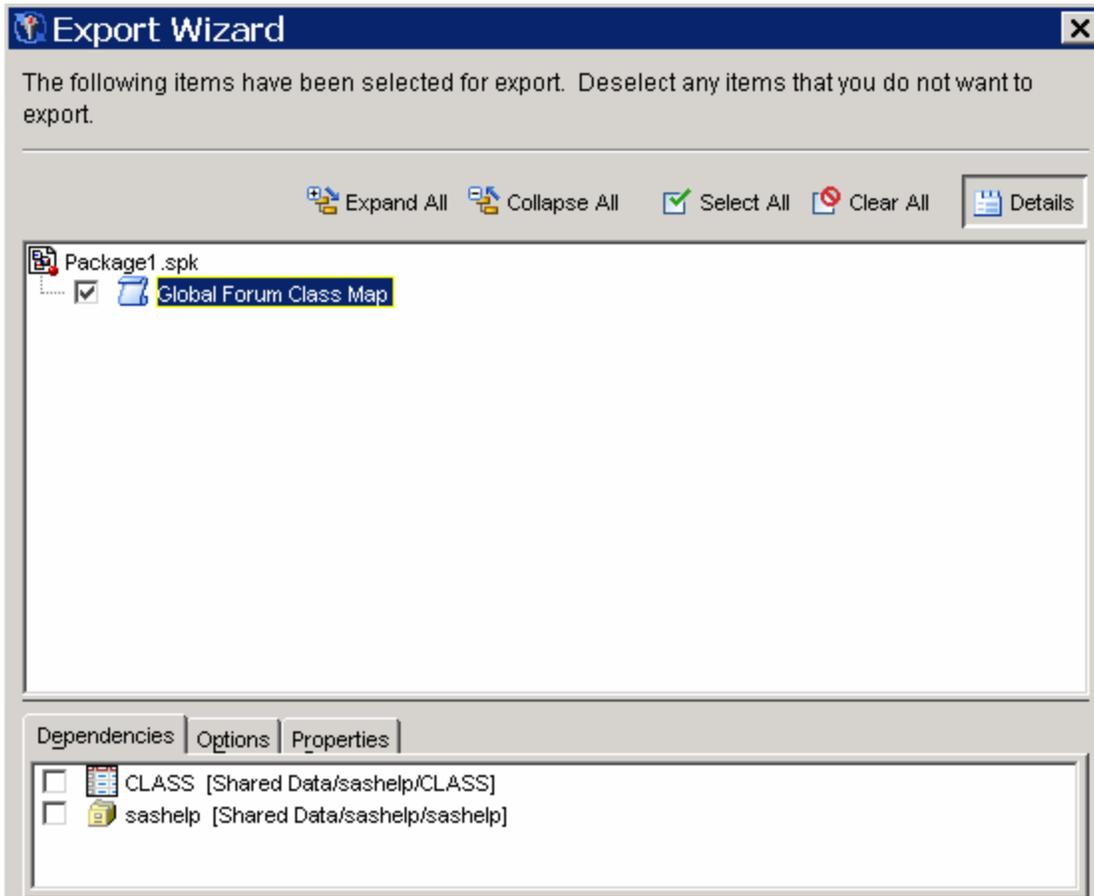


Figure 3. Package Contents

- Click **Next**.
- On page 3, click **Export**.
- On page 4, click **Finish**.

8. Back in the SAS Management Console, locate the folder where you want to import the information map. On the folder, right-click and select **Import** to launch the Import Wizard (see Figure 4).

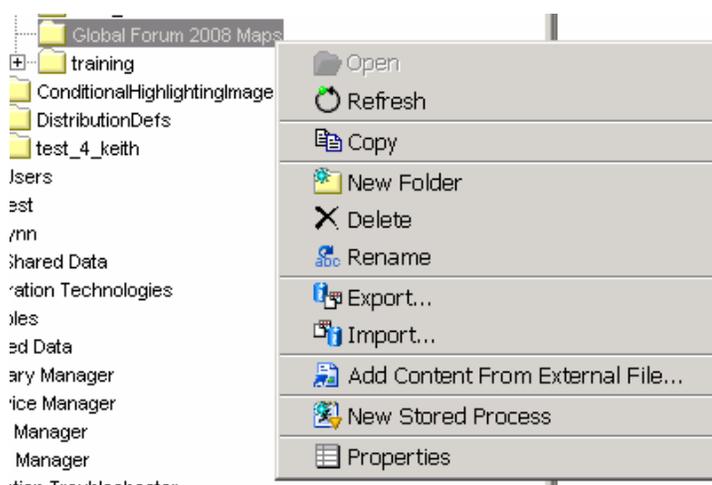


Figure 4. Options Available on the Map Folder

9. On page 1 of the Import Wizard, the location will probably be automatically populated with the package (.spk file) that you just created. If not, browse to the correct file and click **Next**.
10. On page 2, you see the directory structure that shows the location where the map is going to be imported (see Figure 5).

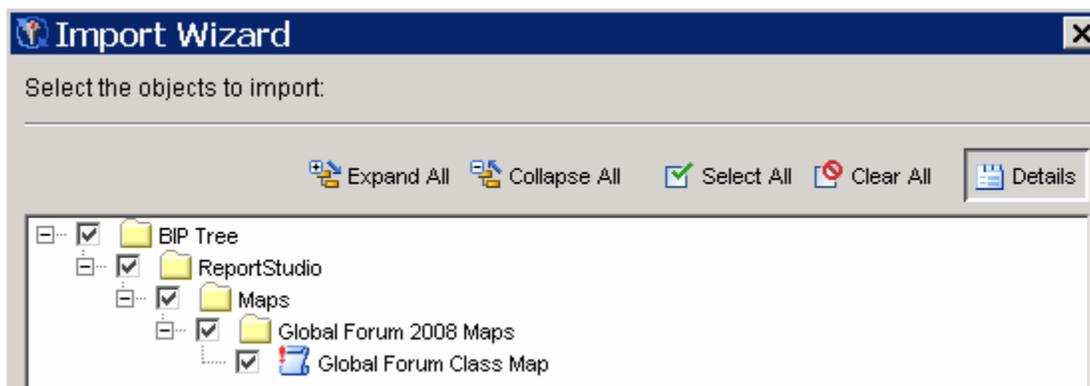


Figure 5. Location Where the Map will Be Imported

11. Click **Next**.
12. On page 3, click **Next**.
13. On the next few pages, you confirm associations or change associations for items such as the application server, libraries, and tables. Typically, the application server names are the same. In this example, you will change just the library and table (see Figure 6).

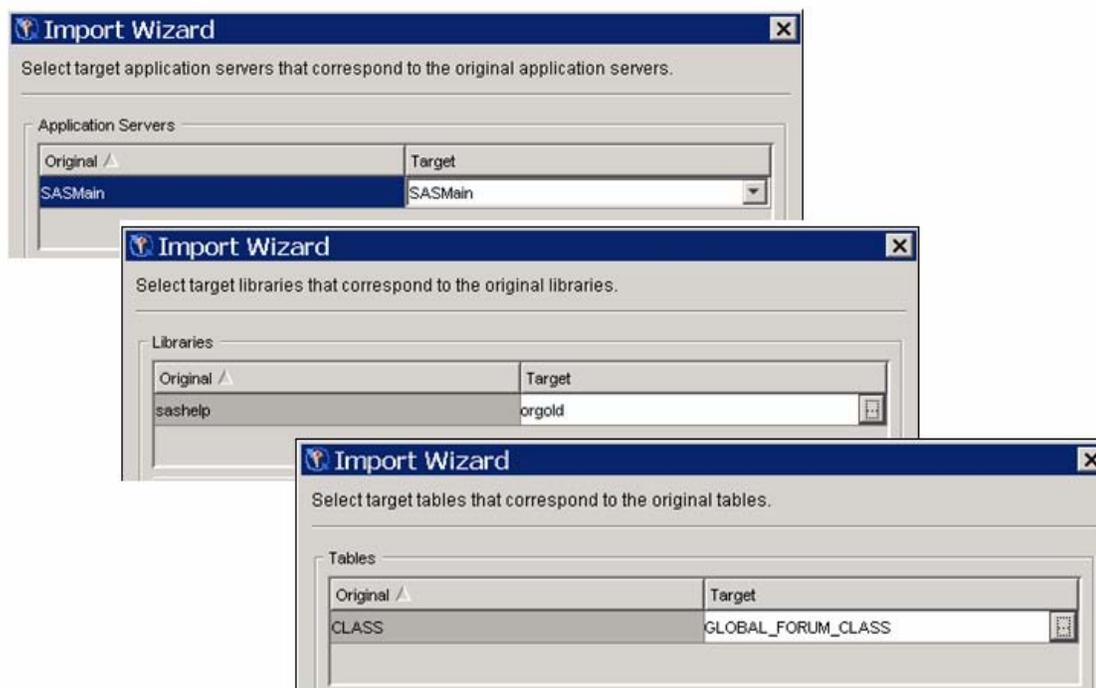


Figure 6. Server, Library, and Tables Can Be Changed for the Map

14. Click **Next**.
15. The last page shows the changes that will be made. Click **Import**.
16. Click **Finish**.
17. Verify that the map has changed by opening Global Forum Class Map in SAS[®] Information Map Studio. Select the input table, right-click, and select **Properties**.



Note: The two things that are not updated in the map are the Table alias ID and the Table alias. You can manually change the Table alias to match the name of the data source, but the actual Table alias ID cannot be changed (see Figure 7).

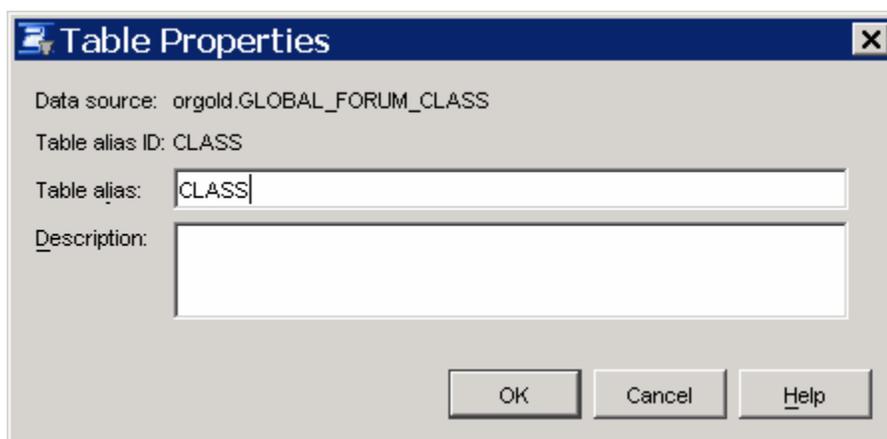


Figure 7. Table Properties in SAS Information Map Studio

18. If the information map is being used in a SAS Web Report Studio report, verify that your report still works.

ADDING NEW COLUMNS TO EXISTING MAPS

Sometimes you will need to add columns to tables that are already being used in one or more information maps. To make a new column available to include in a map, you must first define metadata for it. Adding column metadata is the safest administration task that you can do because you are guaranteed that the column is not being used elsewhere.

In this example, a new column named Last_Name was added to the Global_forum_class table, which is used as input to the Global Forum Class map. Before you can add the new column as a data item in the map, you must register the column in metadata (see Figure 8).



VIEWTABLE: Orgold.Global_forum_class

	Name	Sex	Age	Height	Weight	Last_Name
1	Alfred	M	14	69	112.5	Mvers
2	Alice	F	13	56.5	84	Rockett
3	Barbara	F	13	65.3	98	Sizemore
4	Carol	F	14	62.8	102.5	Budlong
5	Henry	M	14	63.5	102.5	Matthews
6	James	M	12	57.3	83	Carol
7	Jane	F	12	59.8	84.5	Doe
8	Janet	F	15	62.5	112.5	Bloom
9	Jeffrey	M	13	62.5	84	Smith
10	John	M	12	59	99.5	Doe
11	Joyce	F	11	51.3	50.5	Hatch
12	Judy	F	14	64.3	90	Miller
13	Louise	F	12	56.3	77	Curley
14	Mary	F	15	66.5	112	Sawyer
15	Philip	M	16	72	150	Berry
16	Robert	M	12	64.8	128	Bennett
17	Ronald	M	15	67	133	Toering
18	Thomas	M	11	57.5	85	Smart
19	William	M	15	66.5	112	Harris

Figure 8. Global_forum_class Table with a New Column Named Last_Name

Perform these steps in SAS Management Console:

1. Open **Data Library Manager** ► **SAS Libraries**.
2. Select the library that contains the table in order to see the tables that are listed on the right.
3. On the table, right-click and select **Properties** (see Figure 9).

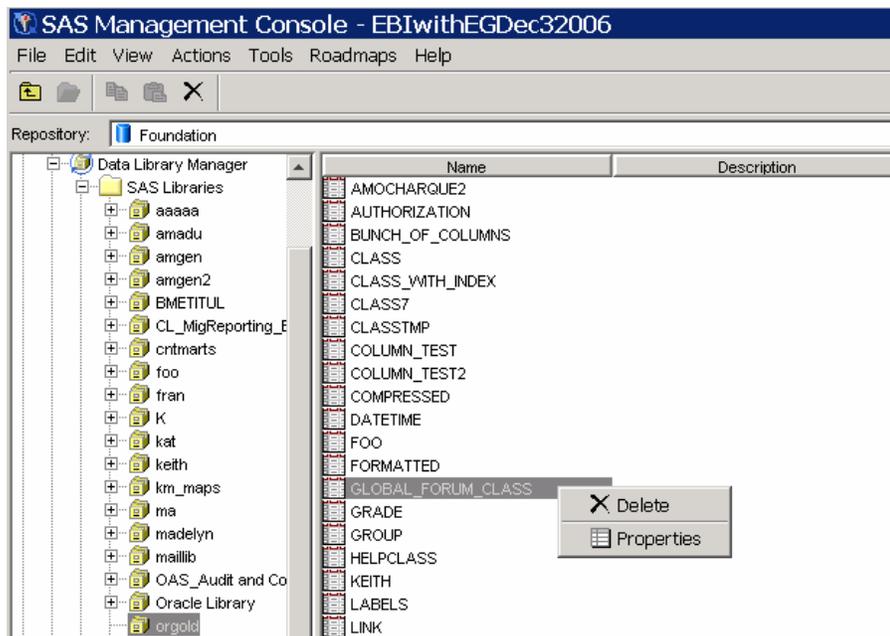


Figure 9. Table Options in the SAS Management Console

- Select the **Columns** tab, select a row, and then click **New**. A new blank row is inserted directly beneath the row that you selected (see Figure 10).

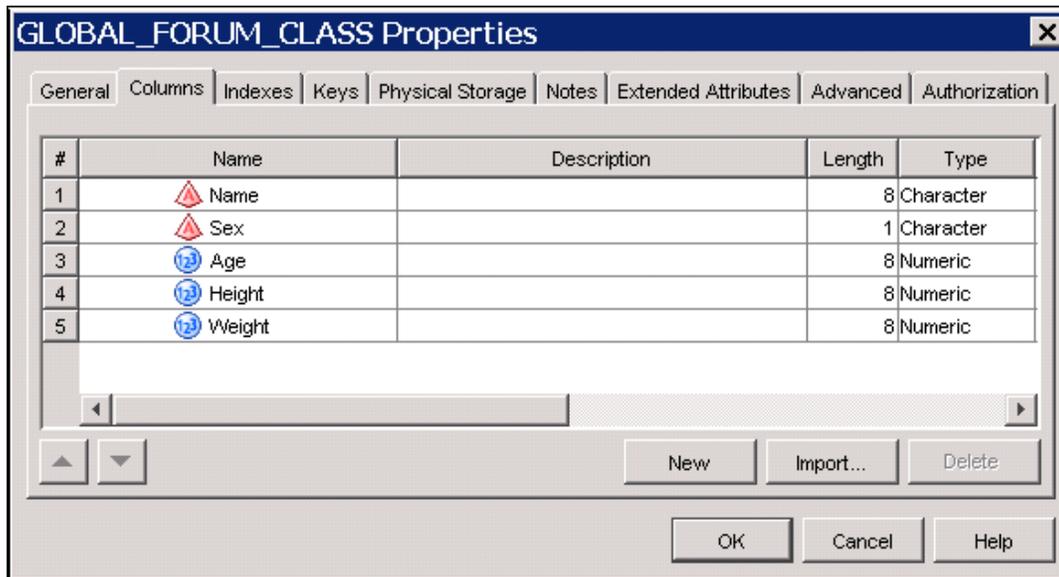


Figure 10. Column Properties

- In the relevant fields, enter the column name and length. Ensure that what you type exactly matches the column attributes in the physical table (see Figure 11).

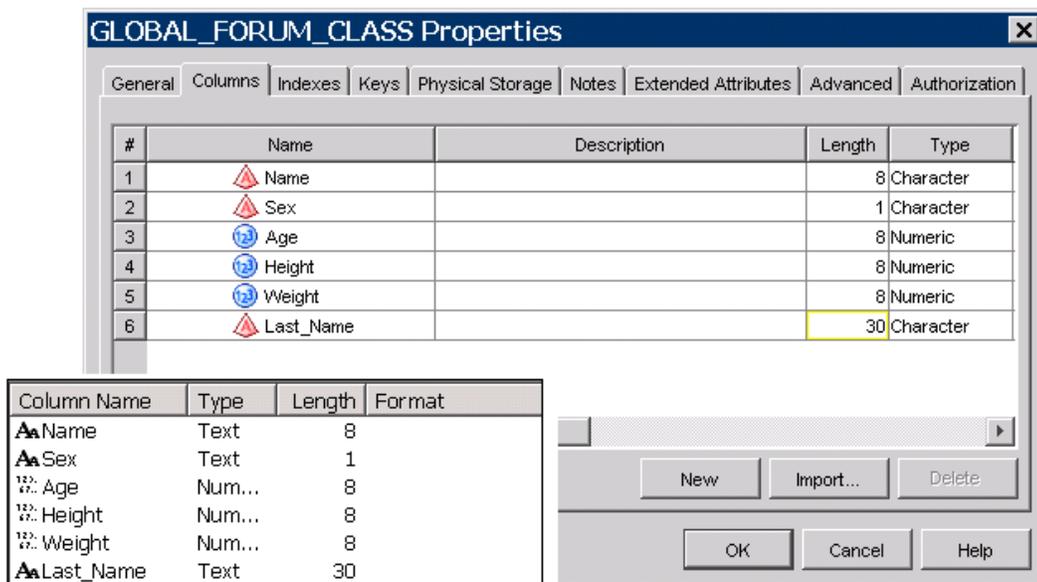


Figure 11. Compare Physical Column Properties to Metadata Column Properties

- Click **OK**.

After you update the table metadata, you can add the new column to your information map. Using SAS Information Map Studio, follow these steps:

7. Open your existing information map.
8. On the **Presentation** tab, you should see the new column in the **Physical Data** pane. On the new column, right-click and select **Insert Column ► Last_Name** (see Figure 12).

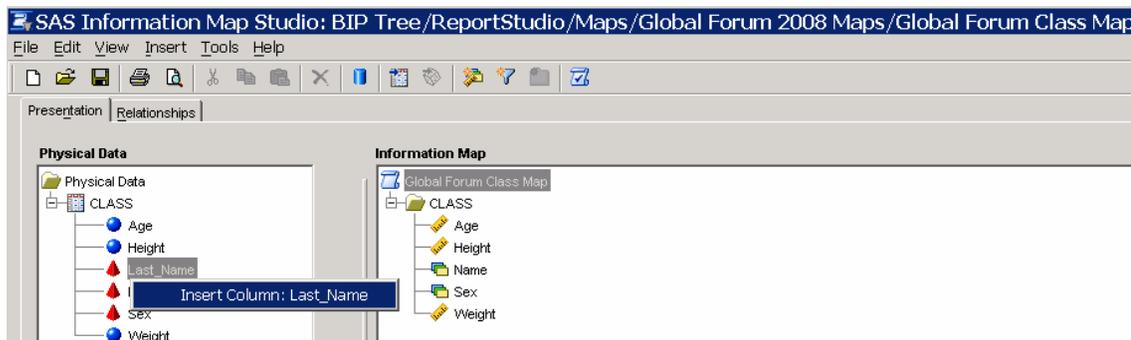


Figure 12. Insert New Column in SAS Information Map Studio

9. After the new column is inserted into the information map, right-click on the column, select **Properties** (see Figure 13), and verify the item characteristics.

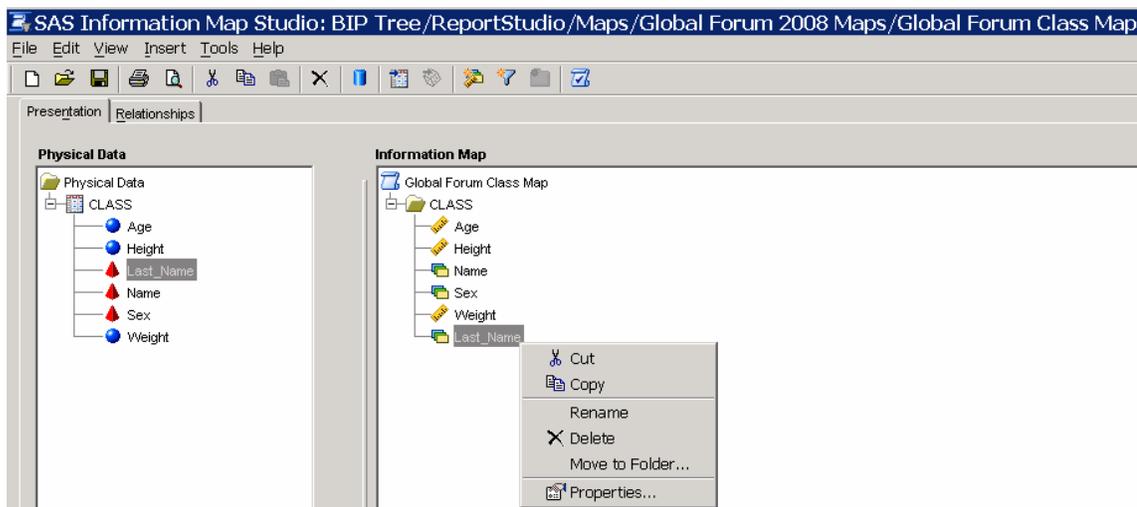


Figure 13. Options Available for a Data Item

Your new data item should now be correctly added to your information map. You can now insert this new data item into SAS Web Report Studio reports that are using the information map.

USING THE SAS BI LINEAGE PLUG-IN TO ANALYZE MAP AND REPORT DEPENDENCIES

Before making changes to an information map, you should know which reports, if any, depend on that map. In order to empower an administrator to see map and report dependencies, a new plug-in called SAS BI Lineage Plug-in was introduced in SAS 9.1.3 Service Pack 4.

The following example shows how to use this new tool. In this example, a data item is being removed from a map named Global Forum 2008 Map 1. However, it appears that Global Forum 2008 Map 1 is being used by at least one report. The SAS BI Lineage Plug-in will help you find out which reports use the map so that you can remove or replace the data item in the corresponding reports.

Follow these steps:

1. Open the SAS Management Console.



Note: Do not log in using an unrestricted user account. The ID that is used for running the SAS BI Lineage Plug-in should be an ID that is governed by metadata privileges.

2. Right-click **BI Lineage** and select **New Scan** (see Figure 14).

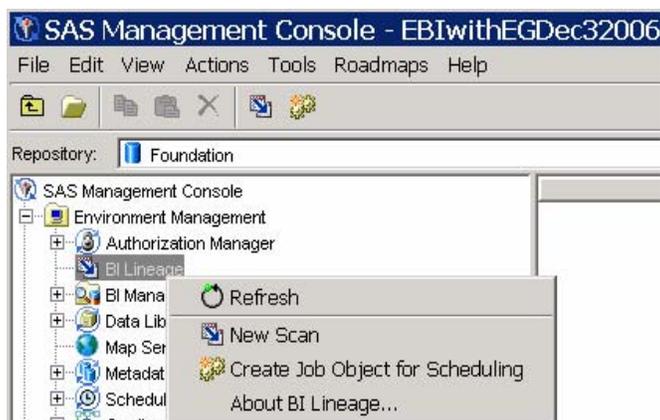


Figure 14. Options Available for BI Lineage

3. The Scan Wizard displays a series of pages that prompts you to provide a name for the scan and to select the folder that you want to scan. The scan folder should be the location of the SAS Web Report Studio reports. In this example, a subfolder in the **Reports** folder named **Global Forum 2008** (see Figure 15) is being scanned.

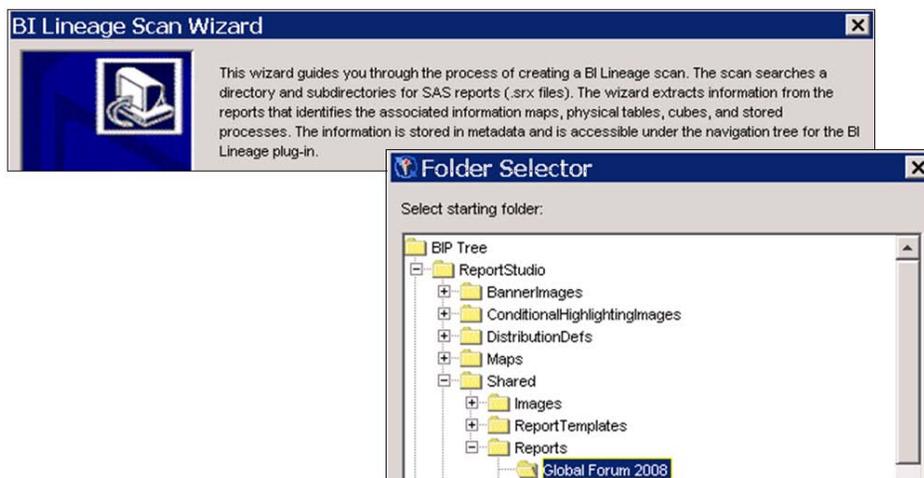


Figure 15. Select the Subfolder in the Reports Folder to Scan

- As part of the scanning process, BI Lineage creates a group of folders that will list any objects that the reports depend on (see Figure 16). Locate the Global Forum 2008 Map 1 in the **Information Maps** folder so you can determine which reports use it.

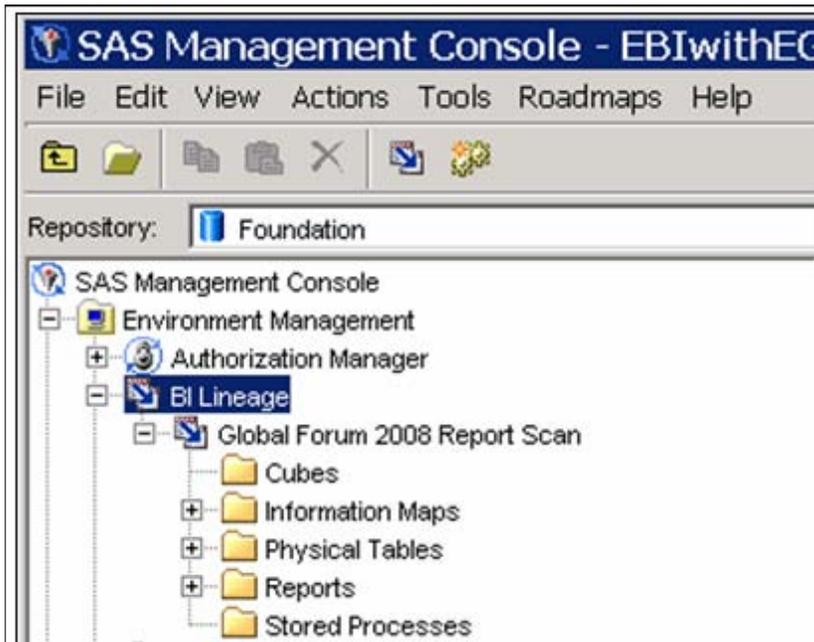


Figure 16. Folder Structure Created from the BI Lineage Scan

- In this example, right-click Global Forum 2008 Map 1 and select **Lineage** to see a list of reports that use Global Forum 2008 Map 1 (see Figure 17).

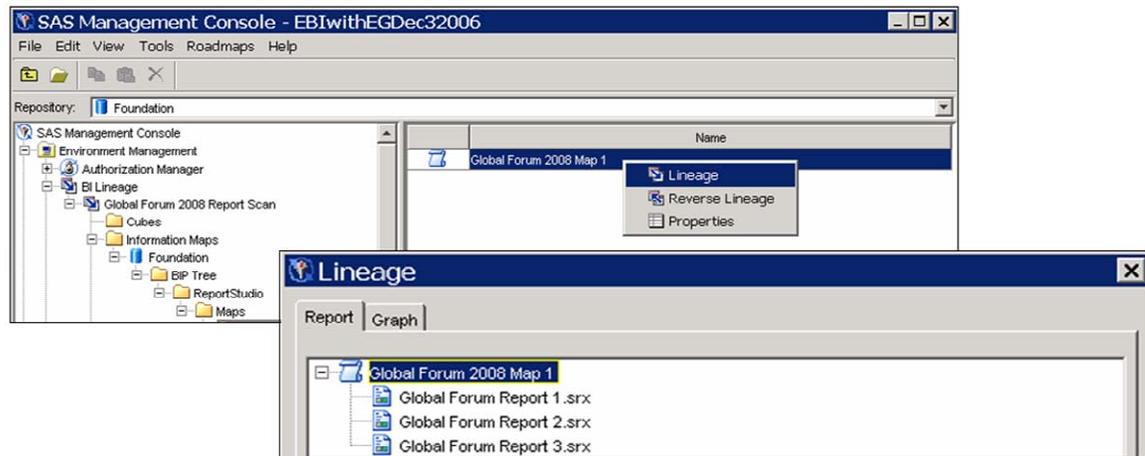


Figure 17. Lineage Operation

- To see a graphical representation of the map and report association, click the **Graph** tab (see Figure 18).

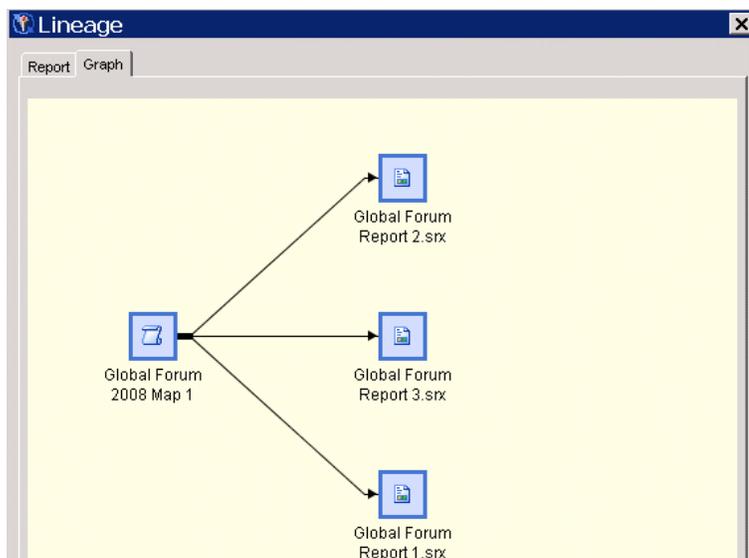


Figure 18. Graph of the Lineage Results

- On the **Report** tab, right-click one of the reports and select **Properties** to see the location of the report.



Tip: Right-click the map and select **Reverse Lineage** to see what tables are being used by the map.

Now that you have identified the reports that will be affected by changes to the information map, you need to follow the best practices for making the changes.

DELETING DATA ITEMS FROM A REPORT AND AN INFORMATION MAP

Now that you know which reports use the Global Forum 2008 Map 1, you must edit the reports that use the data item that you want to delete from the map. Here are the recommended steps.

- Open the report in SAS Web Report Studio.
- Make a backup copy of the report by selecting **Report ► Save As**.
- Reopen the original report.
- Look at each of the report objects in the Edit Report view and remove or replace the data item in the object.
- View the report.
- Save the report.
- Repeat Steps 1 through 4 for all of the reports that use Global Forum 2008 Map 1.
- Open SAS Information Map Studio and make a backup copy of the map.
- Reopen the original map.
- Delete the data item from the map.
- Save the map.
- Test the reports. If you can view the reports, then you have successfully deleted the data item and updated the reports.

MOVING SAS INFORMATION MAPS

Every SAS Web Report Studio report definition contains hard-coded references to all of the information maps that it uses. So, before you can move an information map, you must identify the reports that are using it, and then you must update the report definition with the map's new location. This section suggests some best practices for performing these tasks.

The example, illustrates how to move the Global Forum move example map from the **/Maps/Global Forum 2008 Maps** folder to the **/Maps/Global Forum 2008 Final Maps** folder.

DETERMINING WHICH REPORTS USE THE MAP

Run a BI Lineage scan against your Report Folder in the BIP Tree. After the scan is complete, navigate the **Information Maps** folder until you find the information map that you want to move. If the map is not listed in the folder, then none of the scanned reports are using it (see Figure 19).

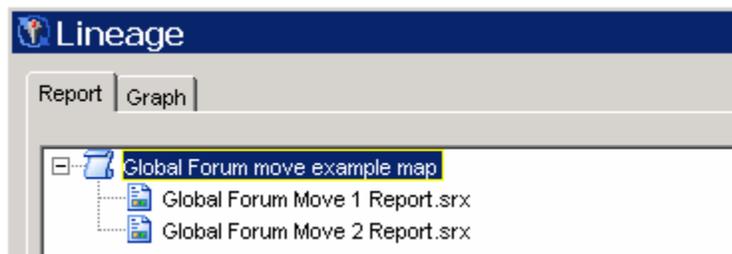


Figure 19. Result of the BI Lineage Scan

EXPORTING THE REPORTS AND MAP INTO A PACKAGE FILE

Use SAS Management Console to create a package file (.spk) that contains information about the map and all of the reports that use the map. You must export the reports and map together so that the report definitions are updated when the package is imported.

Perform the following steps to create the package file.

1. Open SAS Management Console.



Note: Do not log in using an unrestricted user account. The ID that is used for running the SAS BI Lineage Plug-in should be an ID that is governed by metadata privileges.

2. Right-click the report name on the **Report** tab in the **Lineage** dialog box, and then select **Properties** to determine where the reports are located.
3. Navigate the BI Manager until you find the folder that contains the reports. All of the reports that you intend to export must be in the same folder.
4. Hold down the CTRL key, select the reports that you want to export, then right-click and select **Export** (see Figure 20).

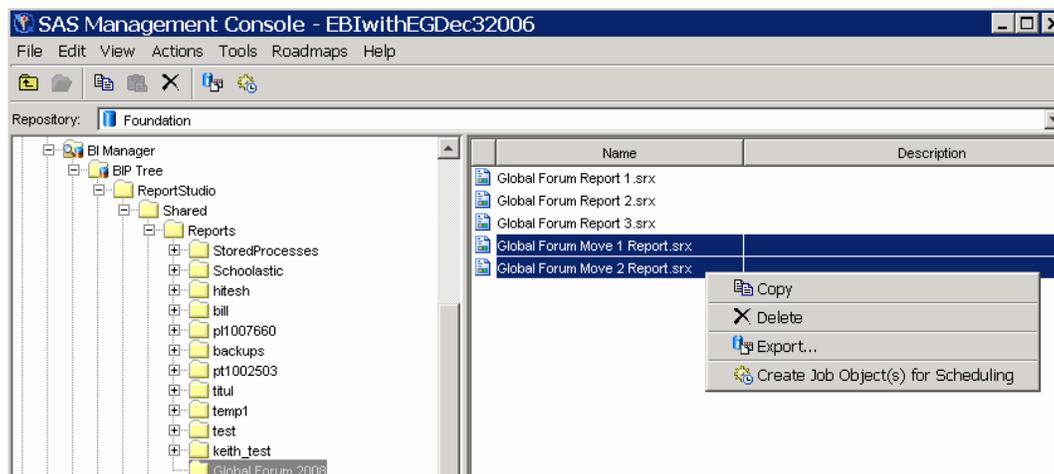


Figure 20. Export Reports

5. After you enter a location for the package file, you see the objects that will be exported. Click on a report name to see a list of dependent information maps.
6. Select the check box next to the name of the map that is associated with the report. The map will be added to the list of files in the package (see Figure 21).

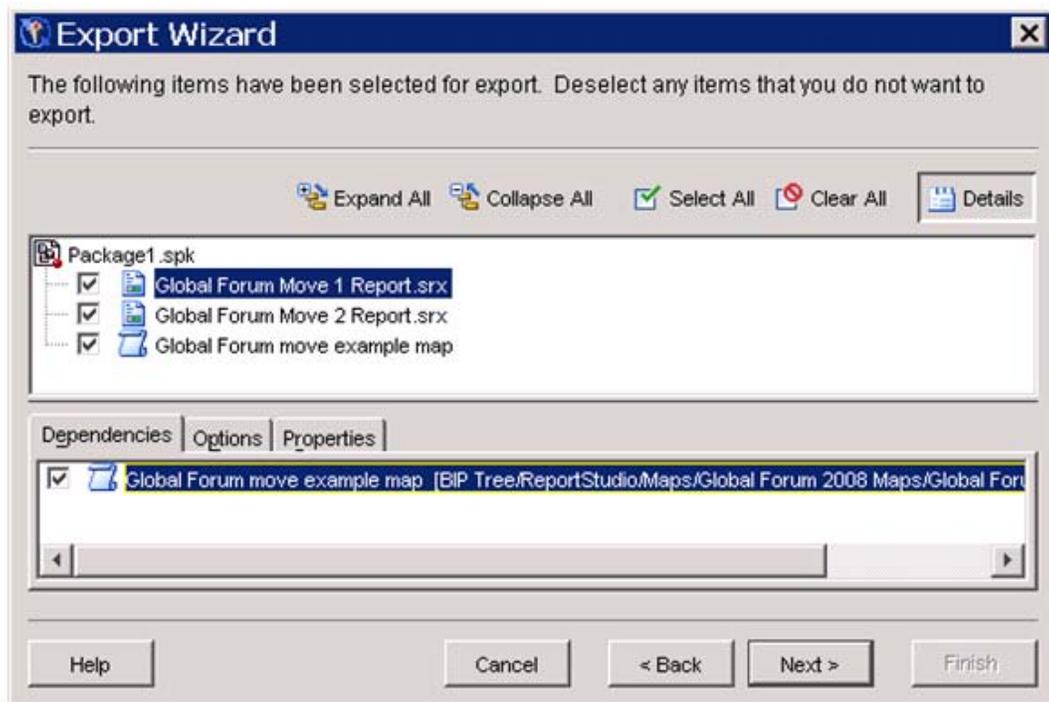


Figure 21. Include the Map in the Export File

7. Complete the steps in the wizard to create the export package.

IMPORTING THE PACKAGE FILE

The package file (.spk) contains the map and all associated reports. When the package file is imported, all of the objects are written to the same location. During this process, the report definitions are updated with that new location, keeping them in sync with the information maps.

Here are the steps for the import process.

1. Navigate the BI Manager to the new information map location.
2. Right-click that folder and select **Import**.
3. The Import Wizard prompts you for the location of the package file and then displays its contents (see Figure 22).

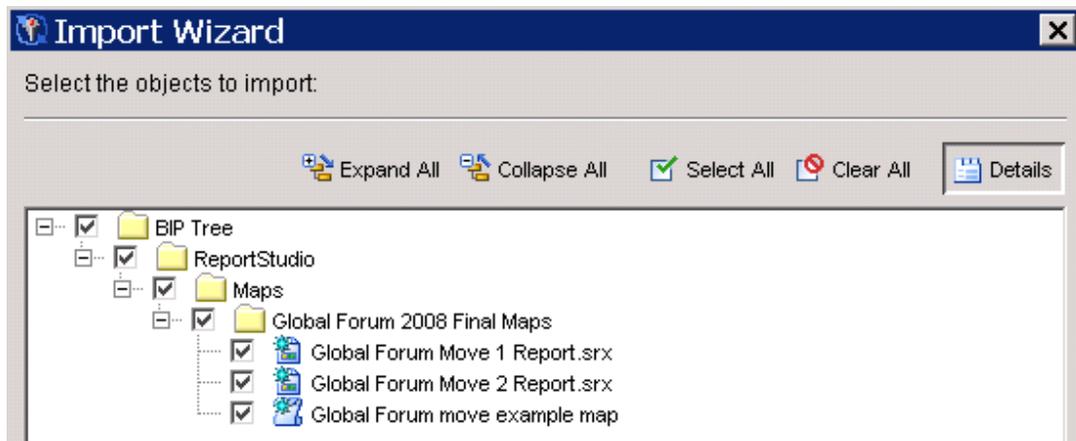


Figure 22. Location and Contents of the Package File for Importing

4. Click **Next** on each of the wizard pages until you get to the last page, then click **Import**. The report definitions are now updated with the new location of the map.
5. Copy and paste the reports back into their original location in the BIP Tree
6. Open one of the updated reports in SAS Web Report Studio. If you can view the report, then the import was successful.

CONCLUSION

As data changes, maps will also have to be changed. Make use of the SAS Management Console import and export features to change libraries and table names, and to move maps. When you are deleting data items from a map, use the new SAS BI Lineage Plug-in tool for SAS Management Console to analyze the report folders and determine which reports need to be edited.

RESOURCES

SAS Institute Inc. 2006. SAS Note 18219: "How to add a new column to an information map after adding a new column to the corresponding physical table". Available at support.sas.com/kb/18/219.html.

SAS Institute Inc. 2006. SAS Note 18628: "Moving a SAS[®] Information Map and SAS[®] Web Report Studio 3.1 report in SAS[®] Management Console". Available at support.sas.com/kb/18/628.html.

SAS Institute Inc. 2008. SAS Note 30850: "Associate a SAS[®] Information Map with a different table that has the same structure as the original table". Available at support.sas.com/kb/30/850.html.

ACKNOWLEDGMENTS

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RECOMMENDED READING

SAS Institute Inc. 2006. SAS[®] 9.1.3 *Intelligence Platform: System Administration Guide*. "Promoting Individual BI Objects". Cary, NC: SAS Institute Inc. Available at support.sas.com/documentation/configuration/bisag.pdf.

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