THE POWER TO KNOW®

SAS® Energy Forecasting 4.3

Installation Guide

SAS® Documentation

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Table of Contents

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Chapter 1 — Pre-Installation Tasks 2

Verify System Requirements 2

Obtain a Deployment Plan 2

Create a SAS Software Depot 2

Set UNIX Directory Permissions 2

Defining User Accounts 3

Chapter 2 — Installation Configuration 4

Prompting Level 4

Forecast Server Configuration 4

System Size 5

PostgreSQL Database Password Configuration 5

Configure Account SAS Energy Forecasting Server User 7

Chapter 3 — Post-Installation Tasks 9

Sample Utility Data 9

Sample Input Data Extraction 9

Tree Initialization 11

Overview 11

Initializing the Tree 13

Updating the Tree 13

Chapter 4 — Sample Reports 15

Sample Report Data Extraction 15

Sample Report Data 15

Sample Visual Analytics Reports 16

Instructions for Importing SAS Energy Forecasting Sample Reports 17

Step 1 – Start the LASR Servers 17

Step 2 – Import the SAS Package for EF Sample Reports 18

Step 3 – Install EF Sample Reports 28

Chapter 5 — Running Update in Place 42

Chapter 6 — Running Migration 43

Appendix 1: Launch SAS As the SAS Administrator 44

Appendix 2: Access the Help Using Local PDF Files 45

Chapter 1 — Pre-Installation Tasks

Verify System Requirements

Review the system requirements documentation to ensure that your system meets the appropriate requirements. For more information, see System Requirements for SAS Energy Forecasting. You can access this document from:

http://support.sas.com/documentation/installcenter/

Obtain a Deployment Plan

Before you can install SAS Energy Forecasting, you must obtain a deployment plan. The deployment plan is a summary of the software that is installed and configured during your installation. A deployment plan file, named plan.xml, contains information about what software should be installed and configured on each machine in your environment. This plan serves as input to the SAS installation and configuration tools. SAS includes a standard deployment plan. You can use this standard plan or create your own plan. For more information about deployment plans, see the *SAS Intelligence Platform: Installation and Configuration Guide*, which is located at:

https://support.sas.com/en/documentation/install-center/94/intelligence-platform.html

Create a SAS Software Depot

Download the software that is listed in your SAS Software Order with SAS Download Manager. A SAS Software Depot is created, which includes the SAS installation data (SID) file. The SID file is used by the SAS system to install and license SAS software. It is a control file that contains license information that is required to install SAS. After you have downloaded SAS Software Depot, you can then use SAS Deployment Wizard to install your software. Verify that Base SAS (SAS) is listed as a selected product. Then, select additional products specific to your environment. For more information about creating a SAS software depot, see the *SAS Intelligence Platform: Installation and Configuration Guide,* which is located at:

https://support.sas.com/en/documentation/install-center/94/intelligence-platform.html

Set UNIX Directory Permissions

Note: This is a new permissions requirement that is introduced in SAS 9.4.

To deploy SAS Energy Forecasting in UNIX environments, you must create and grant WRITE permissions on the /etc/opt/vmware/vfabric directory. Refer to the SAS Pre-Installation Checklist that is included with your deployment plan for instructions about how to set up this directory.

Defining User Accounts

SAS Energy Forecasting uses the standard user accounts and groups that SAS software uses. See the pre-installation checklist that is included in the deployment plan for details about standard user accounts and groups. For more information about deployment plans, see **https://support.sas.com/en/documentation/install-center/94/intelligence-platform.html**. For information about creating groups and adding user accounts for specific environments, see your Linux or Windows documentation.

Prior to installation, two users must exist and have access to the machine where the data for SAS Energy Forecasting is installed, typically the server tier machine. You can use different account names from the examples provided but the accounts should be separate.

- The first account is needed for the SAS Spawned Servers account. This is part of the platform installation. For example, **sassrv**.
- The second account is used for the SAS Energy Forecasting Server User account, for example, **sassef**. The SAS Energy Forecasting Server User account is used to perform many operations within the SAS Energy Forecasting user interface, for example, creating projects, running diagnoses, deleting forecasts, etc.

Both of these accounts need full access to the EnergyForecasting folder and all descendant folders under the SAS Configuration directory **SASConfig/Lev1/SASApp/Data**. If you choose to create your projects in folders outside of the configuration directory, then the accounts will need full access to the folders and files in those locations.

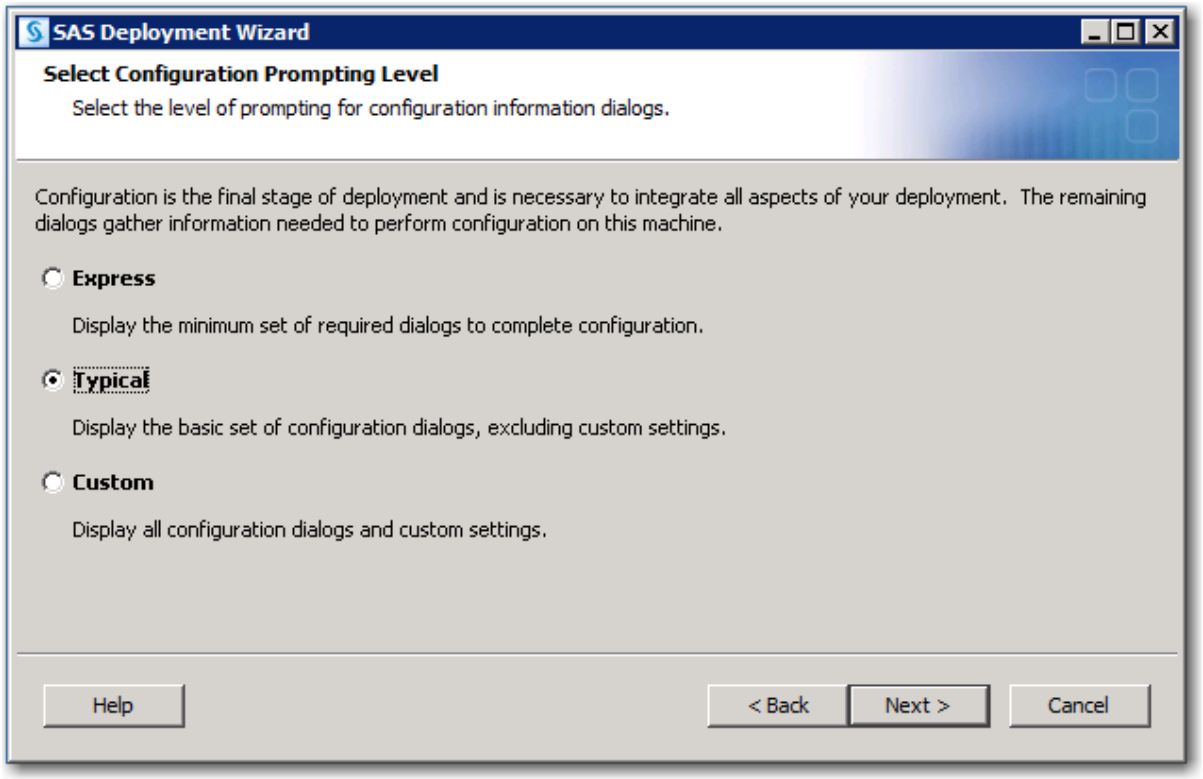
Note*:* If you create folders and files with the SAS Energy Forecasting Batch Interface using a different account, then you must ensure that the SAS Energy Forecasting Server User account has full access to the same folders and files if you subsequently want to manage those projects from the SAS Energy Forecasting user interface. This can be performed using standard operating system authorization facilities, for example, the Computer Management administrative dialog on Windows or the chmod command on UNIX.

Additional Note: If you are running SAS Forecast Server Client, you need an additional spawned server account. You use the **sassrv** account during the first pass of the SAS Deployment Wizard. In the second pass of the SAS Deployment Wizard (when you are configuring SAS Forecast Server Client), you need a second spawned server account (such as **sasfsc**). This user account is associated with the second application server context, so only users of SAS Forecast Server Client have access to SAS Forecast Server Client data.

Chapter 2 — Installation Configuration

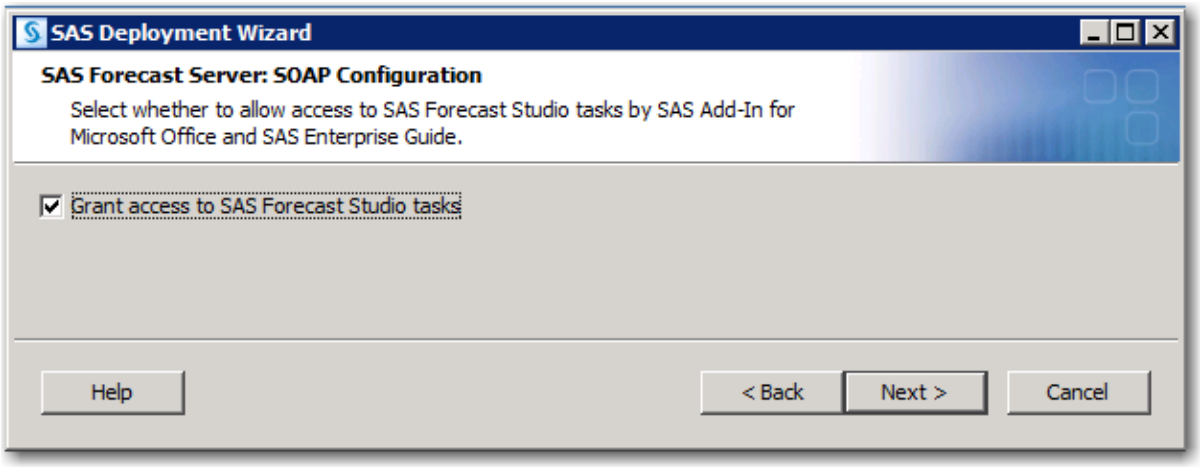
Prompting Level

In the Select Configuration Prompting Level step, select **Typical**. Click **Next**.



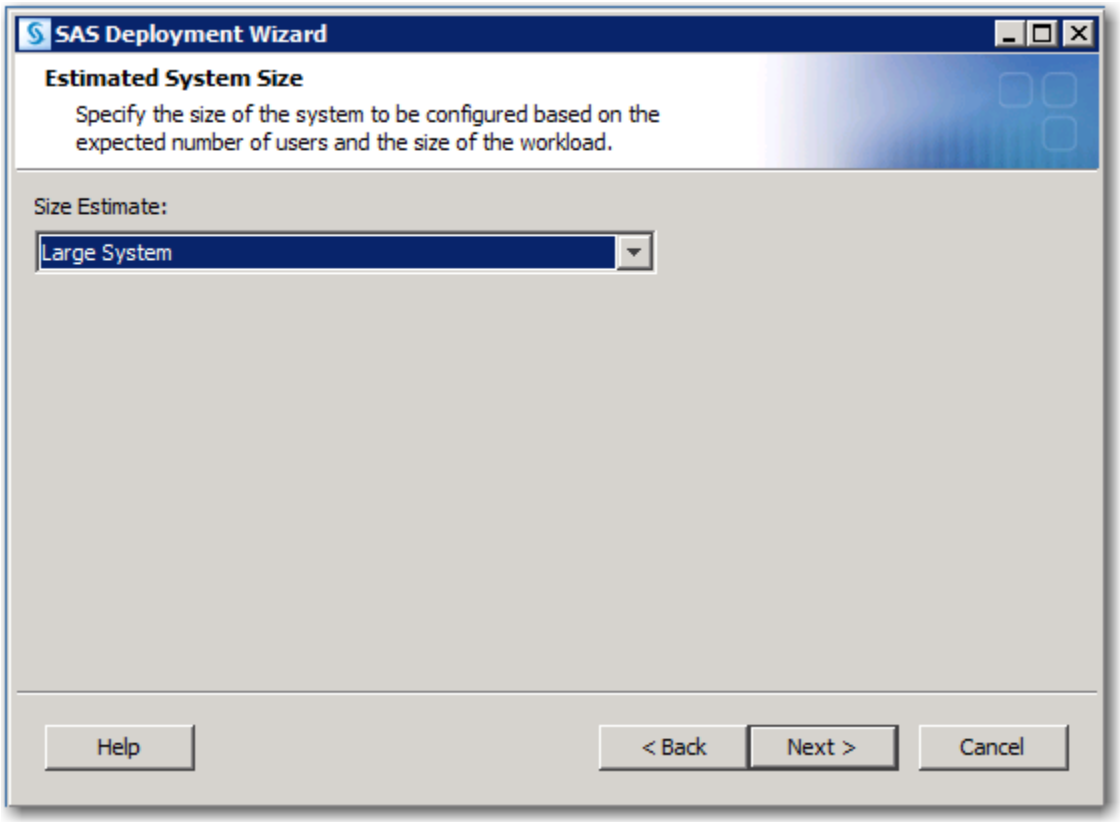
Forecast Server Configuration

In the SAS Forecast Server: SOAP Configuration step, select **Grant access to SAS Forecast Studio tasks** to allow access to these tasks by SAS Add-In for Microsoft Office and SAS Enterprise Guide. Click **Next**.



System Size

The recommended selection for Estimated System Size is **Large System**. Click **Next**.

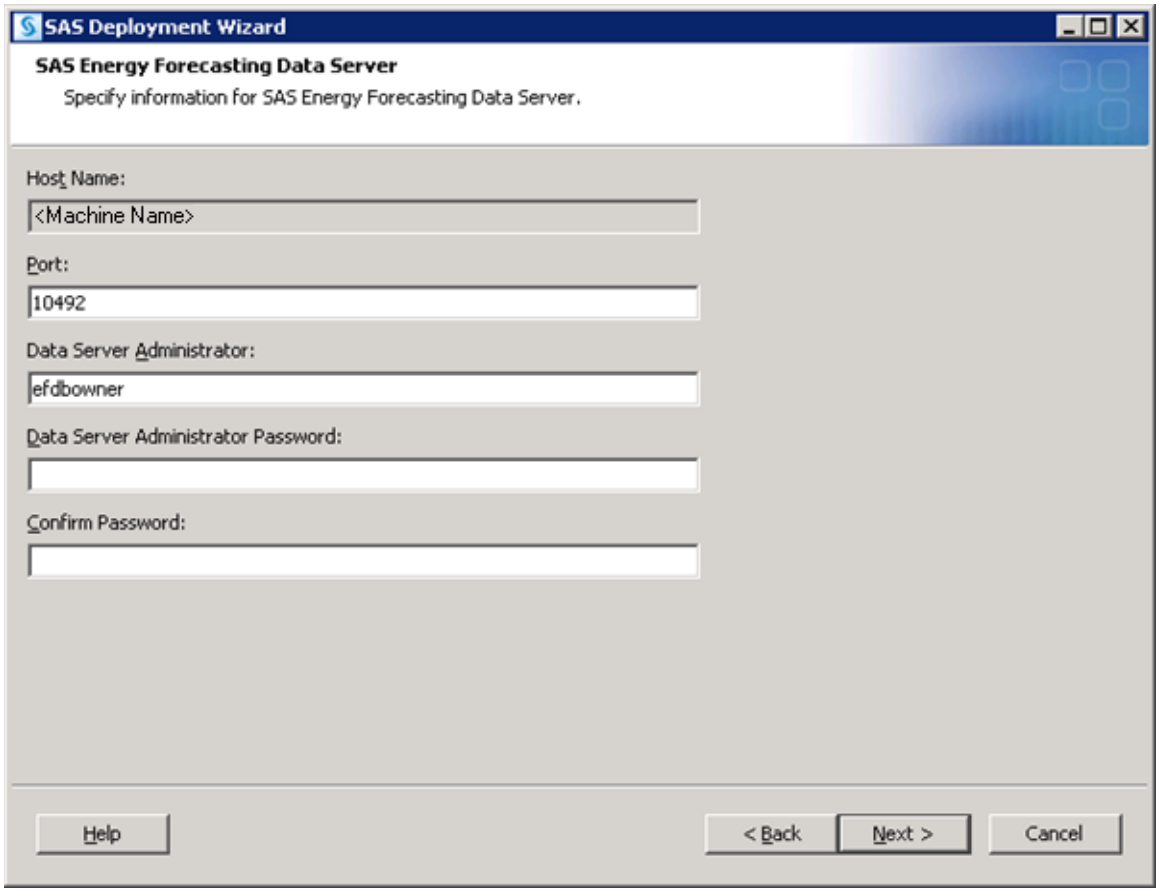


PostgreSQL Database Password Configuration

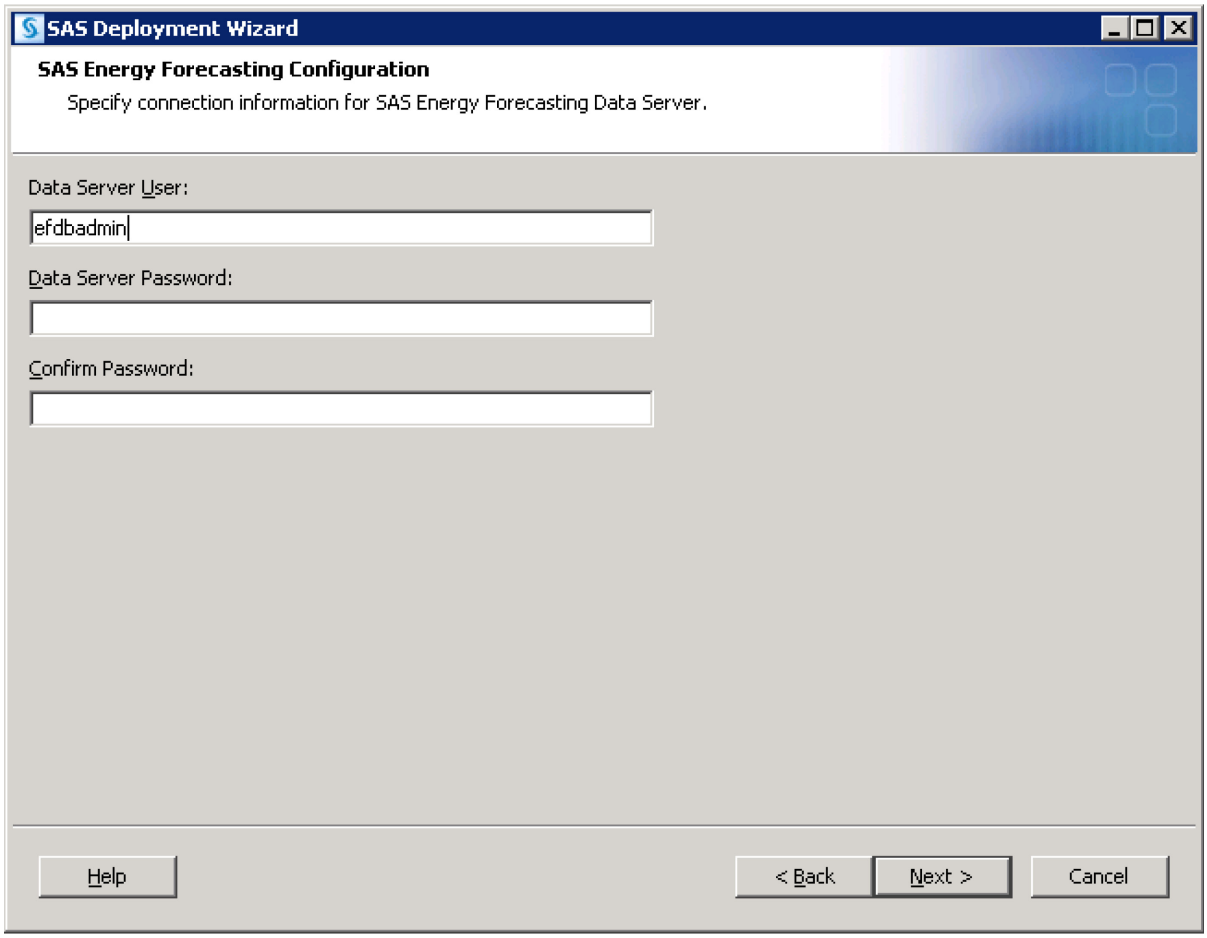
The SAS Energy Forecasting solution is deployed with its own instance of a PostgreSQL database which has the database name of **sassef**. There are two accounts created with the database, an

owner account and an administrator account. The solution runs using the owner account to modify the database. The password for the owner account of the *sassef* database must be entered, then click **Next.**

Note: The user defined for SAS Energy Forecasting Server User account in Defining User Accounts is not required to be the same name as the database name, *sassef*.

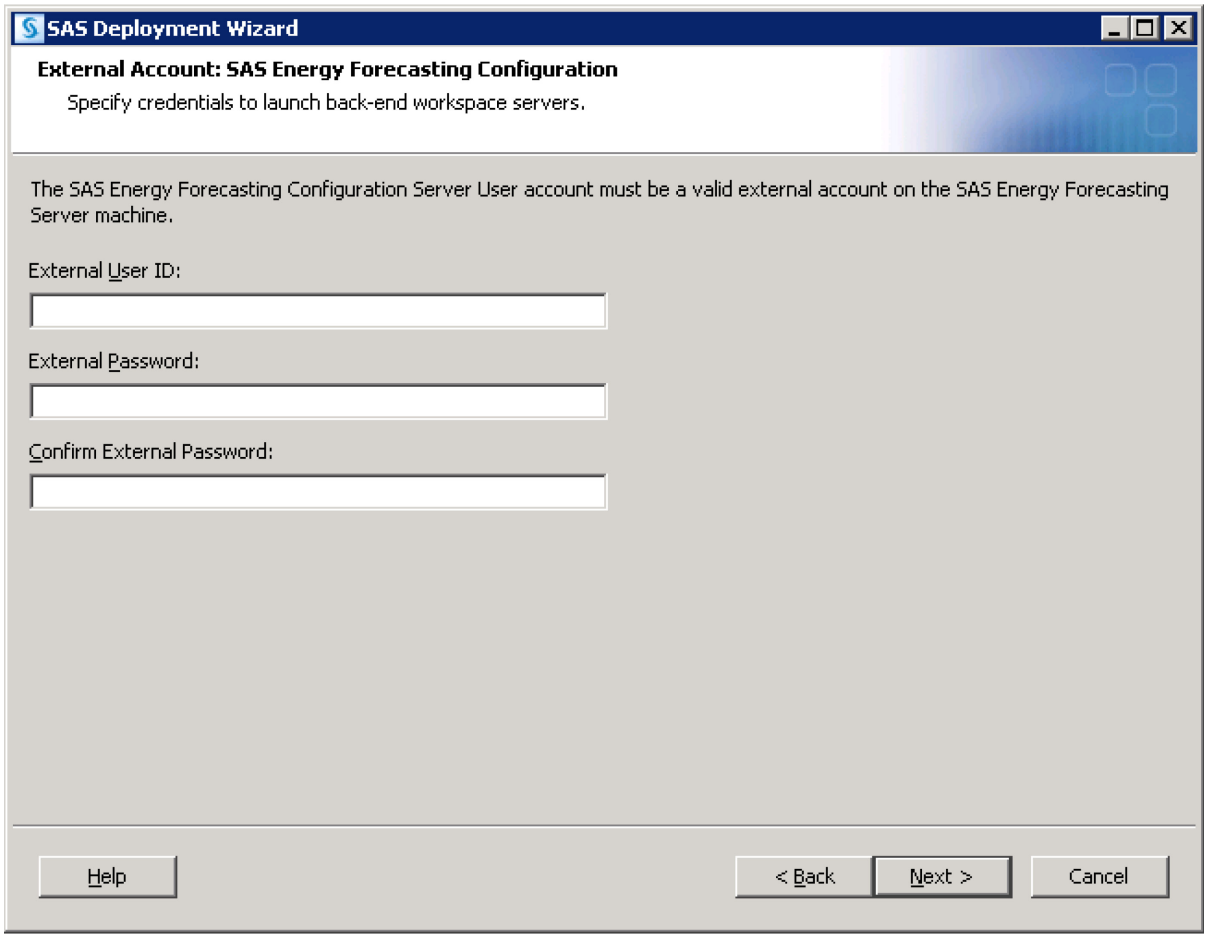


The administrator password of the *sassef* database must also be entered, and then click **Next.**



Configure Account SAS Energy Forecasting Server User

In the pre-installation step, a user account was created for the SAS Energy Forecasting Server User account. The account name was sassef**.** Enter that user name in the External User ID text box with the appropriate domain name for Windows. Enter the password that is associated with the user and click **Next**.


SAS Deployment Wizard
External Account: SAS Energy Forecasting Configuration
Specify credentials to launch back-end workspace servers.
The SAS Energy Forecasting Configuration Server User account must be a valid external account on the SAS Energy Forecasting Server machine.
External User ID:
External Password:
Confirm External Password:
Help
< Back
Next >
Cancel

Chapter 3 — Post-Installation Tasks

At the end of the installation process, SAS Deployment Wizard writes an instructions file called **Instructions.html** to the Documents directory in your SAS configuration directory.

The **Instructions.html** file contains additional information and details for configuring your installation. You can review this file for any additional steps to your installation.

Sample Utility Data

Energy Forecasting requires electricity load data. You have the option of loading your own data or the sample input data. If you choose to load your own data, refer to the data model in the *SAS Energy Forecasting 4.3 User's Guide*. If you prefer to load the sample input data, refer to the **Sample Input Data Extraction** section below for instructions.

Sample Input Data Extraction

There is sample input data delivered with the solution. The sample input data is located at **SASHome\SASFoundation\9.4\enfcsvr\sasmisc** for Windows and at **SASHome/SASFoundation/9.4/misc/enfcsvr** for Linux. Following are the steps to import the sample input data to a directory on the server:

1. Unzip the file SAS_Energy_Forecasting_sample_data.zip to a directory location on the server tier.

2. Launch SAS as the SAS Administrator (See Appendix 1) and open sef_import_sample_data.sas.

3. Determine the encoding of the SAS session by following the directions in the *SAS National Language Support (NLS): Reference Guide*, which is located at: **http://support.sas.com/documentation/onlinedoc/nls/index.html**
   - Note if the encoding is not wlatin1 or UTF8, then the Base SAS session must be modified for this step to be wlatin1 or UTF8.

4. Make the following modifications to sef_import_sample_data.sas prior to running:
   - Set the mart_type macro variable at the top of sef_import_sample_data.sas to specify the desired type of sample data mart. Valid values include the following:

     1. ALL – loads the data for all of the utilities in one folder: ALL_LOCS
     2. SINGLE – loads the data into utility specific data folders: CT, MASS, ME, etc.
     3. BOTH – loads the data from both 1 and 2

- Change the input_directory parameter in the sef_import_sample_data macro definition to the location where SAS_Energy_Forecasting_sample_data.zip was unzipped. This folder will contain all of the .dpo files.

- Change the output_directory parameter in the sef_import_sample_data macro definition to the location where the sample data should be loaded.

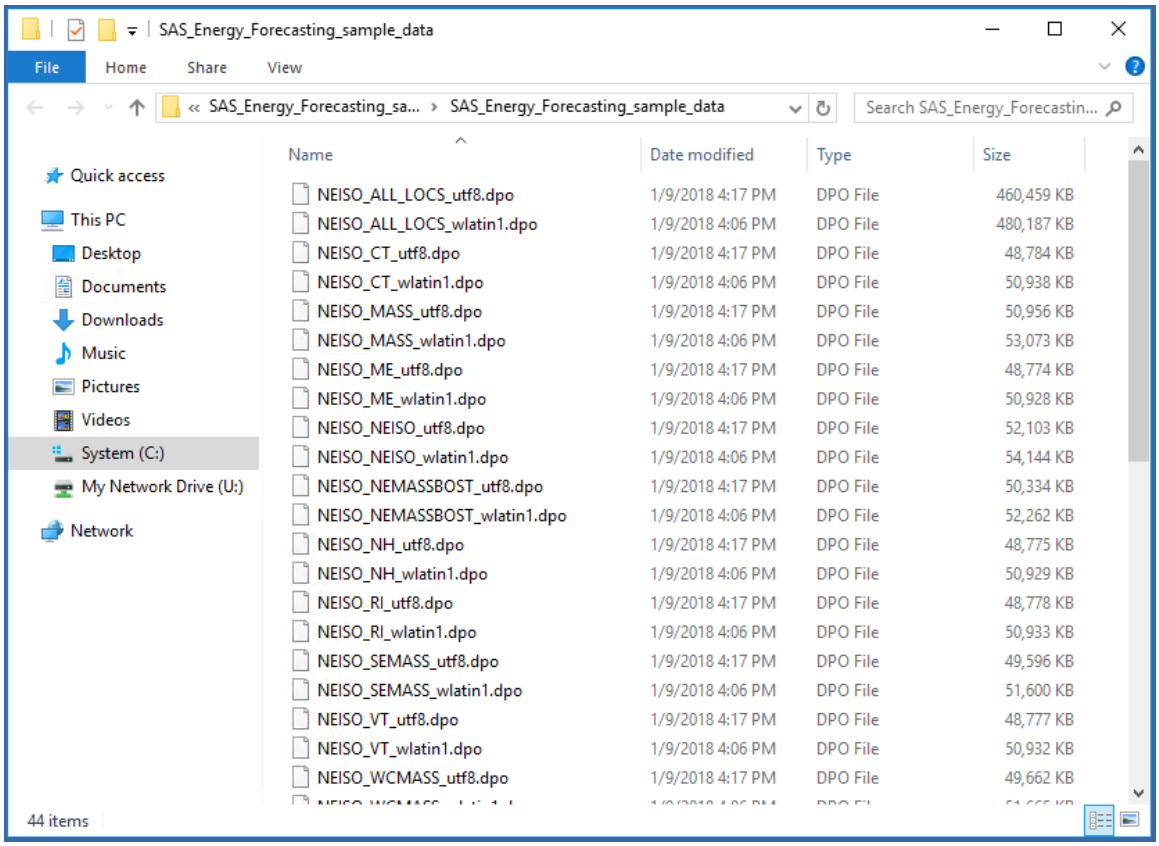
- Change the encoding parameter in the sef_import_sample_data macro to the encoding value determined above (wlatin1 or UTF8).

5. Submit the sef_import_sample_data SAS program.

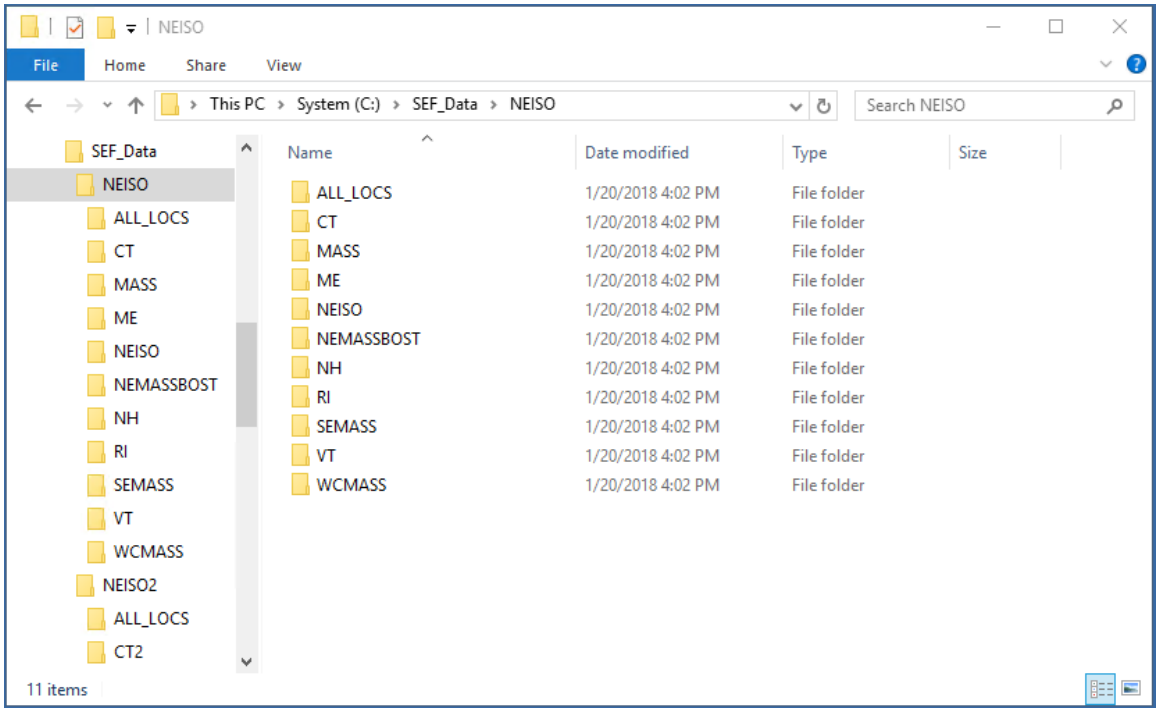
The following example shows modifications being made to sef_import_sample_data.

```
%let mart_type=BOTH;
%macro sef_import_sample_data (
                                input_directory=C:\sample_data,
                                output_directory=C:\SEF_data,
                                encoding=wlatin1,
                                zone=,
                                hierarchy=
                              );
```

Run sef_import_sample_data with the input directory shown below.



The following results are produced.



The sef_import_sample_data program will extract two similar hierarchies – NEISO and NEISO2. Both have the same structure, however, their data values are slightly different. Having two hierarchies is useful for doing reconciliations between hierarchies, i.e., cross-project reconciliations.

Tree Initialization

Overview

The SAS Energy Forecasting solution requires a hierarchical structure of the utility locations that will allow the user to forecast for the parent utility location or one of its children utility locations. This hierarchy can also be used to reconcile the predicted load values of the children utility locations with the predicted load values of their parent utility location or vice versa.

This hierarchy tree is maintained in the SAS Energy Forecasting PostgreSQL database. The data in the database is used to display the hierarchies in the user interface. The dataset **util_loc_dim** is used to initially populate the hierarchy tree in the database by running the `%seftree` macro. The value of the UTIL_LOC_CD column in util_loc_dim will be the value used as the mapping between the SAS Energy Forecasting user interface and the input data when running diagnose and forecasts jobs.

The util_loc_dim dataset may have a single hierarchy or multiple hierarchies. The hierarchy that a specific utility location belongs is defined by the UTIL_LOC_HIERARCHY_CD column.

Tree Initialization should not be attempted when migrating or updating in place as the tree initialization should already have occurred at the time of installation.

Example UTIL_LOC_DIM (from sample data)

The sample data that is shipped with SAS Energy Forecasting has the following util_loc_dim dataset columns and values. This table shows the NEISO hierarchy only (the NEISO2 hierarchy is not shown). Some columns in the dataset have been removed from the table for clarity.

UTIL_LOC_DIM_RK	UTIL_LOC_CD	UTIL_LOC_NM	UTIL_LOC_DESC	PARENT_UTIL_LOC_CD
1	CT	Connecticut	Connecticut zone	NEISO
2	MASS	Massachusetts	Massachusetts region	NEISO
3	ME	Maine	Maine zone	NEISO
4	NEISO	New England ISO	New England ISO Company	
5	NEMASSBOST	NE Mass and Boston	Northeast Massachusetts and Boston zone	MASS
6	NH	New Hampshire	New Hampshire zone	NEISO
7	RI	Rhode Island	Rhode Island zone	NEISO
8	SEMASS	SE Mass	Southeast Massachusetts zone	MASS
9	VT	Vermont	Vermont zone	NEISO
10	WCMASS	Western and Central Mass	Western and Central Massachusetts zone	MASS

The sample data for the NEISO hierarchy has a single root utility called NEISO, row number 4. It is the root because the column PARENT_UTIL_LOC_CD is blank. The NEISO utility has six children

which are, CT, MASS, ME, NH, RI, and VT. The utility MASS has three children NEMASSBOST, SEMASS, and WCMASS.

NEISO								
CT	MASS			ME	ME	NH	RI	VT
	NEMASSBOST	SEMASS	WSMASS					

Initializing the Tree

When the dataset util_loc_dim is configured with all the utilities that are to be defined in the PostgreSQL database, the tree can be initialized with the macro `%seftree`, passing the directory where dataset util_loc_dim resides as a macro parameter. Launch SAS as the SAS Administrator (See Appendix 1) and run the following macro:

```
%seftree(source_dir=<directory containing dataset util_loc_dim>);
```

At the completion of the `%seftree` macro, the PostgreSQL database contains the hierarchy tree of utility locations and the SAS Energy Forecasting user interface will display utilities when the select node control is selected when creating a diagnose.

Note: If a user logs on to the user interface without initializing the tree first, the user will receive System Error messages at entry into the interface.

Updating the Tree

If there is a change to the utilities where utilities need to be added or removed, the hierarchy tree in the PostgreSQL database that was created in the previous section will need to be updated. To update the tree with new or removed utilities, update the util_loc_dim dataset and run the same `%seftree` macro that was used earlier:

```
%seftree(source_dir=<directory containing dataset util_loc_dim>);
```

At the completion of the `%seftree` macro, the PostgreSQL database contains the updated hierarchy tree of utility locations and the SAS Energy Forecasting user interface will display the updated hierarchy tree when the “select node” control is clicked when creating a diagnose.

Note: If a utility code is not present in the updated dataset util_loc_dim that was in the original dataset util_loc_dim, there might be some loss of data in postgres. The data in the data tier will be saved. The compare is performed by using the util_loc_dim_rk value in the util_loc_dim table. For utility codes that are not changing, the util_loc_dim_rk for those codes should be the same in the current and new util_loc_dim tables. If the util_loc_dim_rk values are changed, then the utility node will be viewed as new and the old utility node will be deleted.

The system protects against deleting utility nodes that have forecast that are part of a reconciliation. If a %sefutree is run and the new hierarchy deletes a node that is part of a reconciliation, the system will indicate an error. This is to protect against deleting time-series

data that has been used in a reconciliation. If you want to remove a utility node that is part of reconciliation, first delete the reconciliation in the UI, and then run the %sefutree and the utility node will be removed.

Chapter 4 — Sample Reports

In addition to providing sample input data that you can use to quickly produce energy forecasts, SAS Energy Forecasting includes sample report data that you can view with the SAS Visual Analytics Report Viewer, which is packaged with SAS Energy Forecasting. The data files associated with the sample reports are not visible within SAS Energy Forecasting, but are based on the sample input data provided with the solution. You can use the SAS Visual Analytics Administration and Reporting solution that is provided with SAS Energy Forecasting to access and modify the data files and associated queries as needed to produce other types of reports.

Sample Report Data Extraction

The files to extract sample report data are located in **SASHome\SASFoundation\9.4\enfcsvr\sasmisc** in Windows and **SASHome/SASFoundation/9.4/misc/enfcsvr** for Linux. Following are the steps to import the sample report data to a directory on the server:

1. Unzip the file SAS_Energy_Forecasting_report_data.zip to any directory of your choosing using Winzip, gzip, or similar tool.

2. Launch SAS as the SAS Administrator (See Appendix 1) and open sef_import_report_data.sas.

3. Make the following modifications to sef_import_report_data.sas prior to running:
   - Change the input_directory parameter in the sef_import_report_data macro definition to the location where SAS_Energy_Forecasting_Report_data.zip was unzipped in Step 1. This folder will contain all of the .dpo files.

   - Change the output_directory parameter in the sef_import_report_data macro definition to the location where the sample data should be loaded. It is recommended, but not required, that the output_directory parameter be set to **C:\SEF_Output** on Windows or **/SEF_Output** on Linux. Installing to a different named location will necessitate minor editing when setting up the reports in SAS Visual Analytics.

   - Change the encoding parameter in the sef_import_report_data macro to either wlatin1 or utf8. The default is wlatin1. Note that your SAS session encoding must match this parameter.

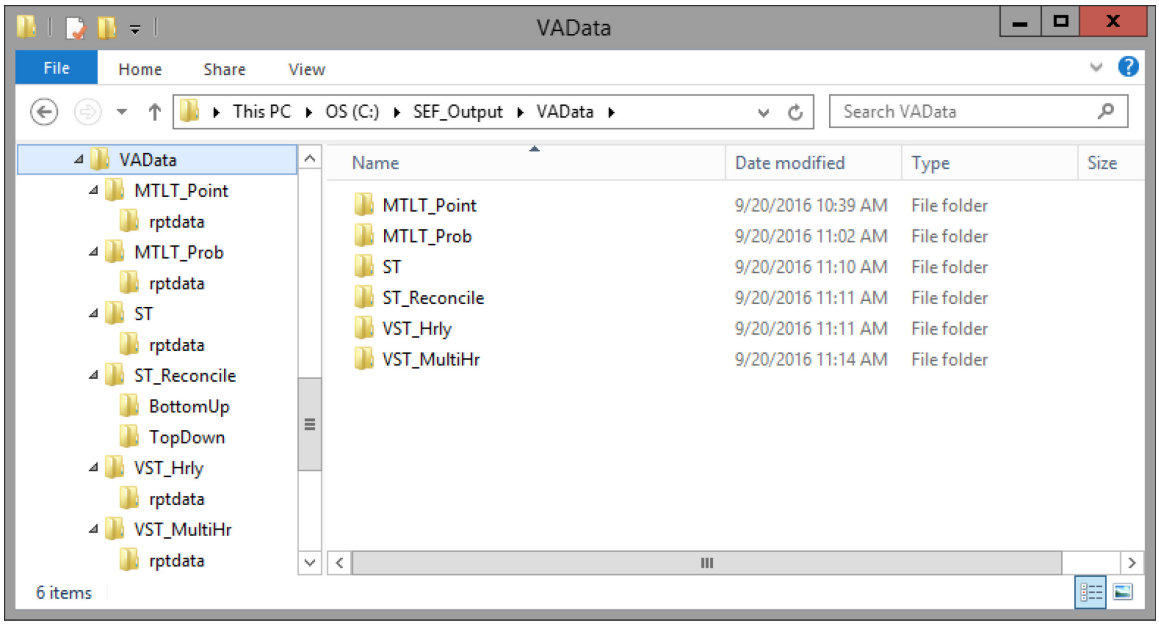
4. Submit the sef_import_report_data SAS program.

Sample Report Data

This example shows modifications being made to sef_import_report_data.sas.

```
%macro sef_import_report_data (
                                input_directory=C:\unzipped_data,
                                output_directory=C:\SEF_Output,
                                encoding=wlatin1,
                                report=
                              );
```

The following results are produced.



Sample Visual Analytics Reports

The sample Visual Analytics report data is contained in a SAS Package (.spk file) located in **SASHome\SASFoundation\9.4\enfcsvr\sasmisc** in Windows and **SASHome/SASFoundation/9.4/misc/enfcsvr** for Linux.

Following are the steps to import the sample VA report to a directory on the server and install the sample reports:

1. Start the LASR servers using SAS Visual Analytics.
2. Import the SAS Package for EF Sample Reports using SAS Management Console.
3. Install EF Sample Reports using SAS Visual Analytics.

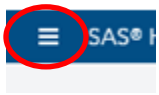
Instructions for Importing SAS Energy Forecasting Sample Reports

Step 1 – Start the LASR Servers

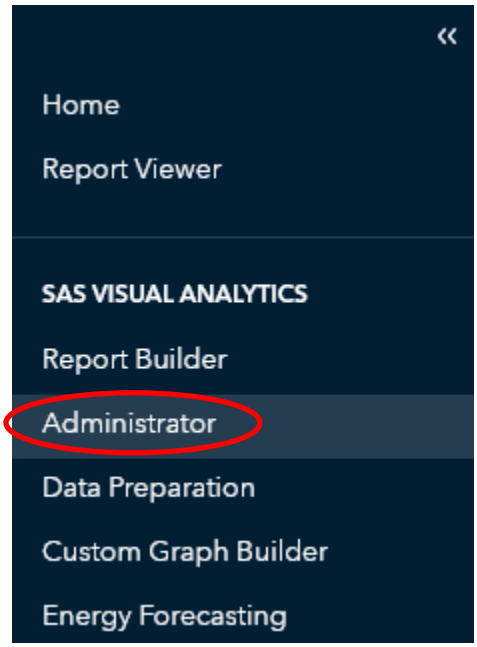
Prior to importing the SAS EF Sample Report data files, the LASR servers need to be started from SAS Visual Analytics Administration and Reporting (VAAR), which is included with SAS Energy Forecasting.

1. The user needs to sign into SAS Energy Forecasting with a metadata identity that is a member of the Visual Analytics Data Administrator group with Visual Analytics Data Building role.

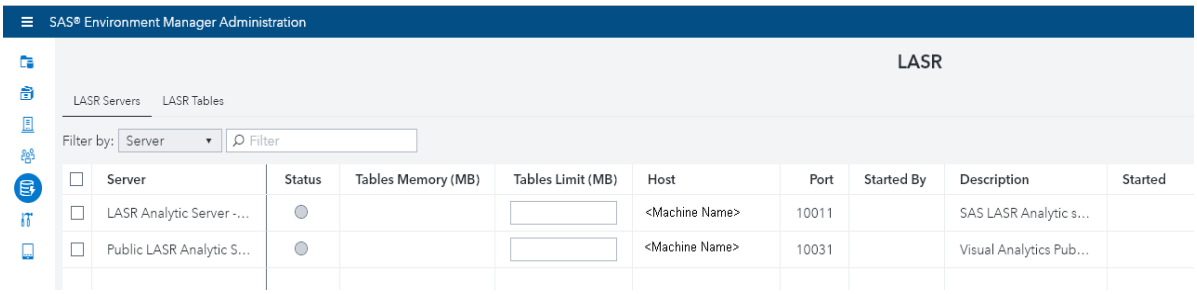
2. Once SAS Energy Forecasting is initiated, click the menu button on the top left



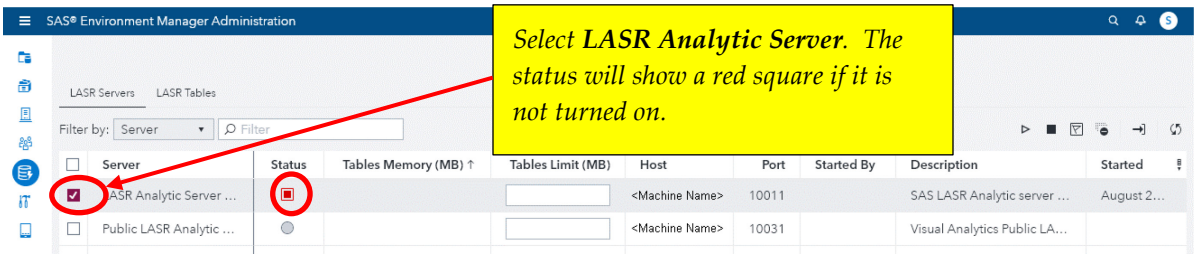
and select Administrator.

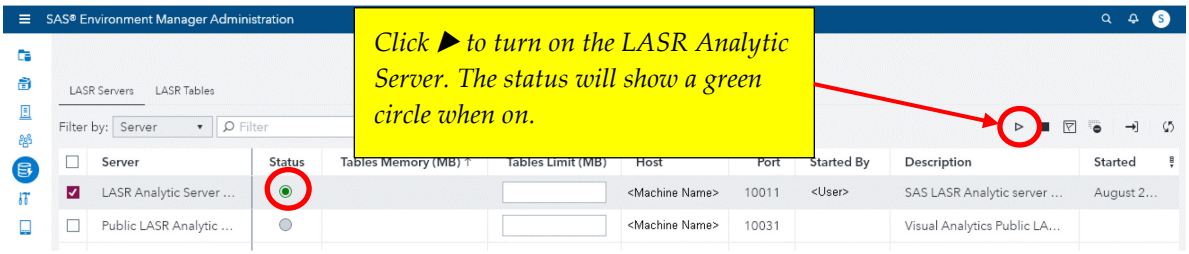


3. After selecting Administrator, the SAS Environment Manager Administration screen appears and shows the LASR servers that are available.



To see the status of the LASR Analytic Server, click the box to the left of the server name. If the box shows a red square, then the server is not on. To turn the server on, click ▶ to start the selected servers. Only the "LASR Analytic Server" needs to be turned on.

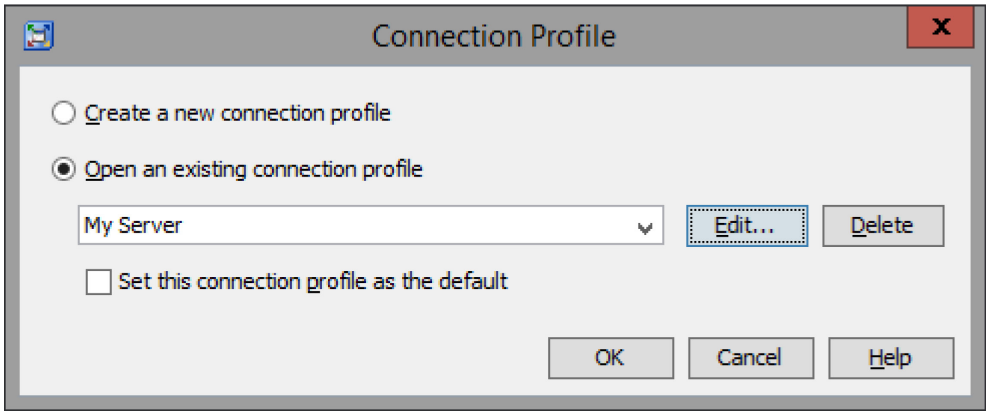




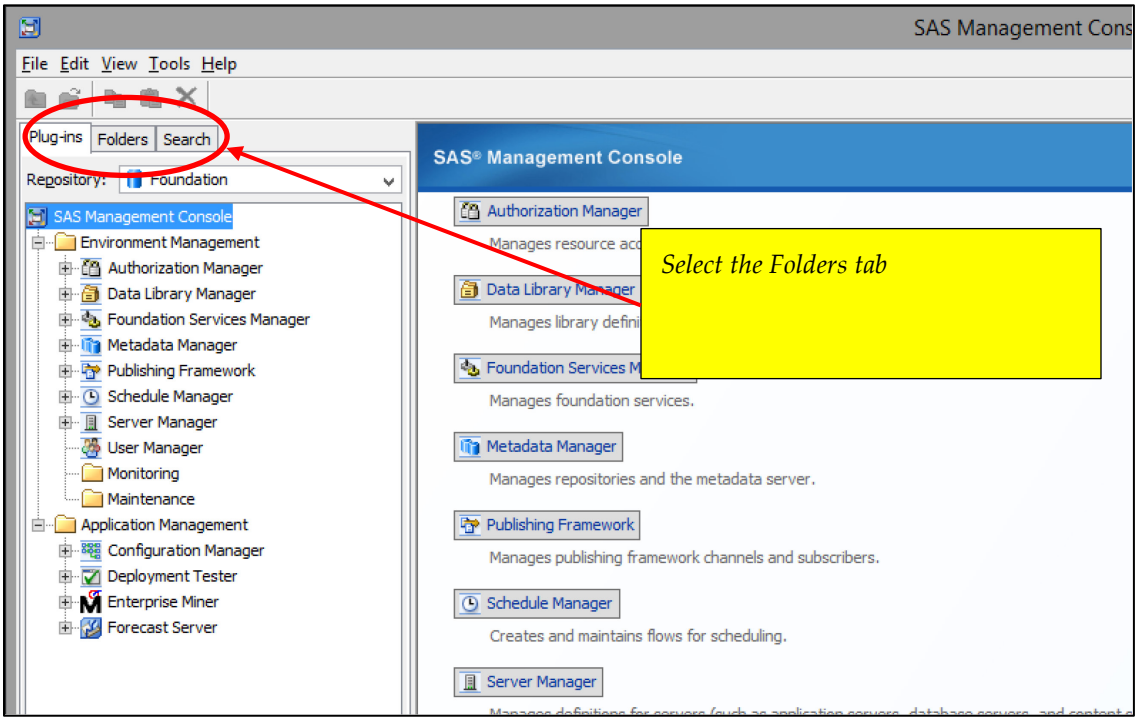
This completes Step 1. Close access to the LASR servers by clicking on the "x" in the Manage Environment tab. SAS Energy Forecasting can remain open since you will need it in Step 3.

Step 2 – Import the SAS Package for EF Sample Reports

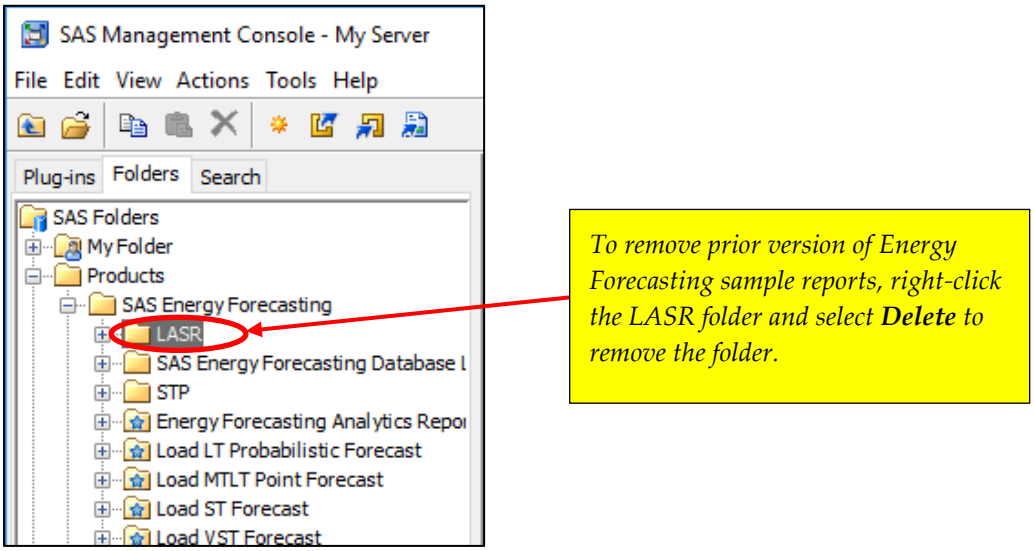
After starting SAS Management Console, a connection profile box appears. If no connection profile exists, you will need to create one for the server. If one is displayed, click **OK** to proceed.


Connection Profile
Create a new connection profile
Open an existing connection profile
My Server
Edit...
Delete
Set this connection profile as the default
OK
Cancel
Help

1. On the SAS Management Console screen, select **Folder**s from the menu, and then expand **SAS Folders** to show Products\SAS Energy Forecasting.

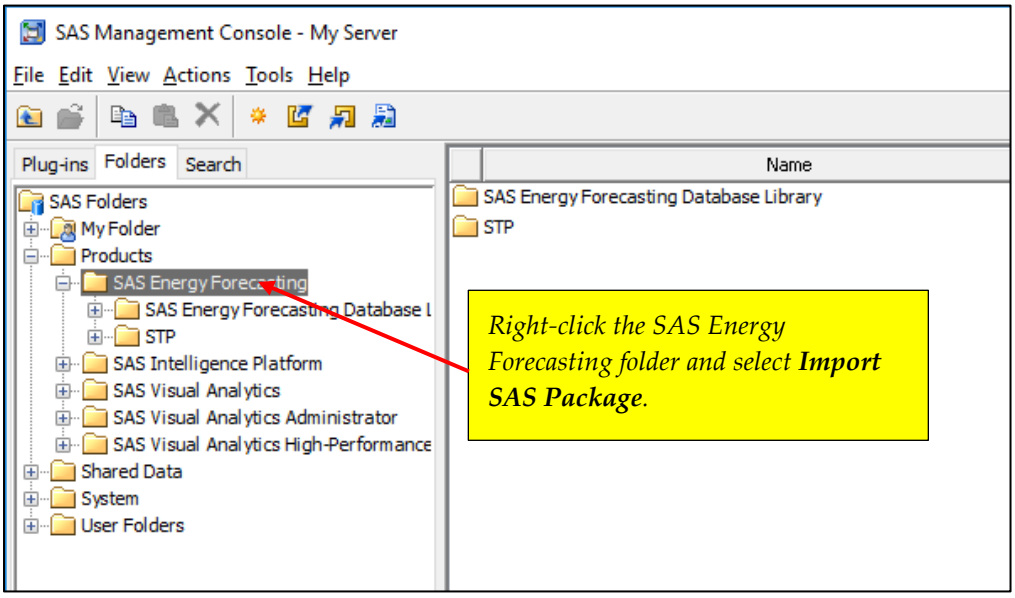


If you see a prior version of Energy Forecasting reports under the LASR folder, you will need to delete this folder before starting the new install of EF Sample Reports.

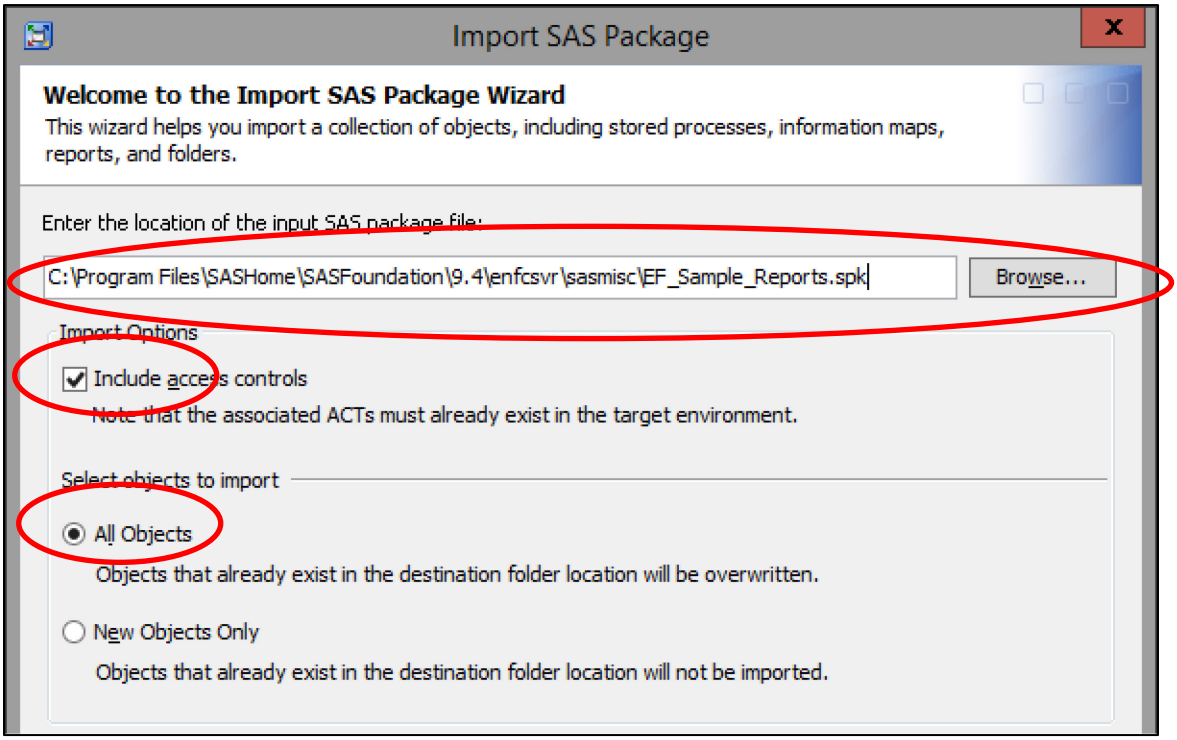


You may select a different location where you would like to import the EF Sample Reports to, but this will require some additional directory mapping later in the install instructions.

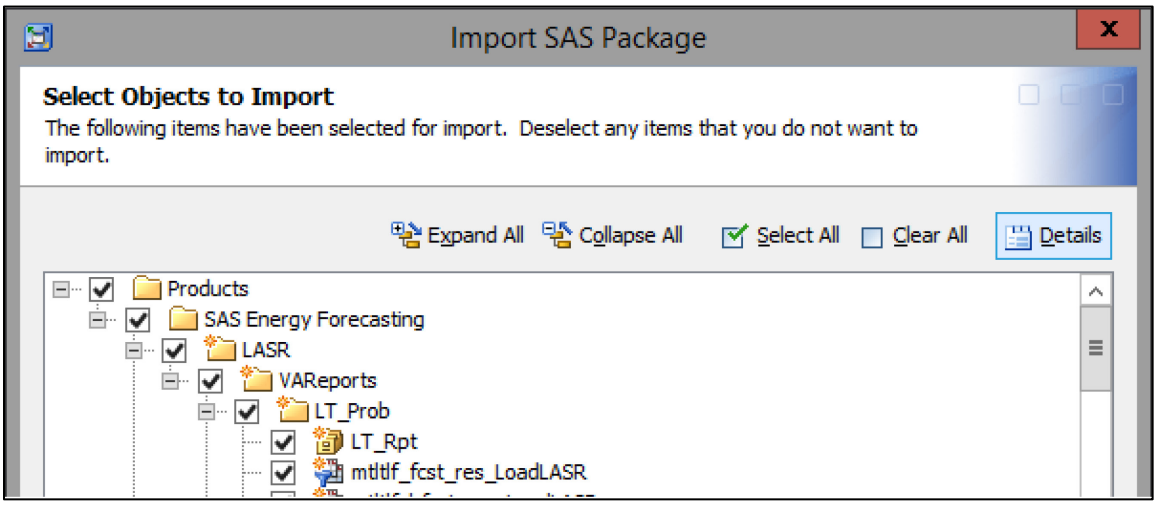
Right-click the SAS Energy Forecasting folder or another folder of your choice and select **Import SAS Package**.



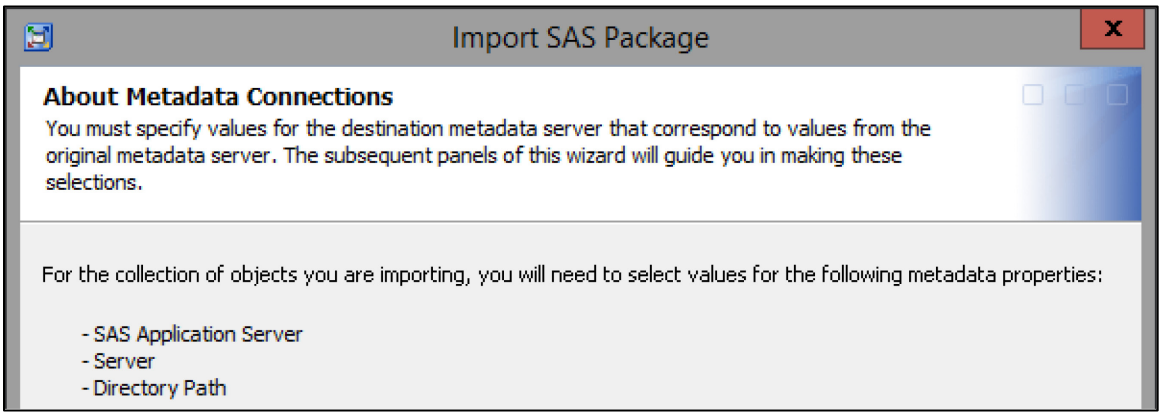
2. On the **Import SAS Package** screen, perform the following steps:
    a. Enter the path as shown or use the Browse button to select the EF_Sample_Reports.spk file.
    b. Select **Include access controls** under ***Import Options.***
    c. Ensure that **All Objects** is selected under ***Select objects to import.***
    d. Click **Next**.



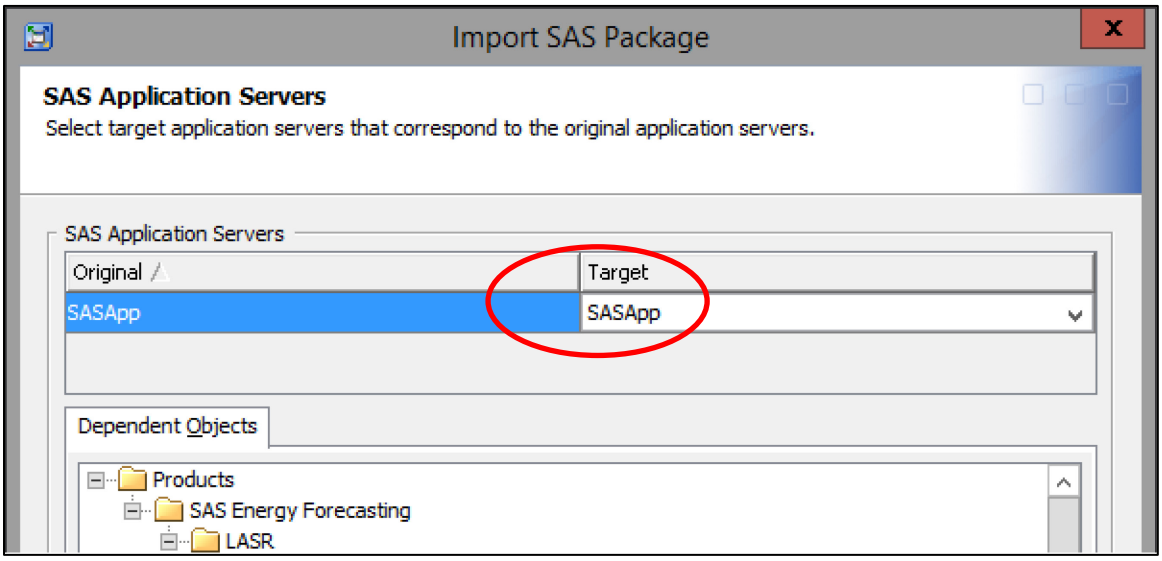
3. On the **Select Objects to Import** screen, click **Next**.



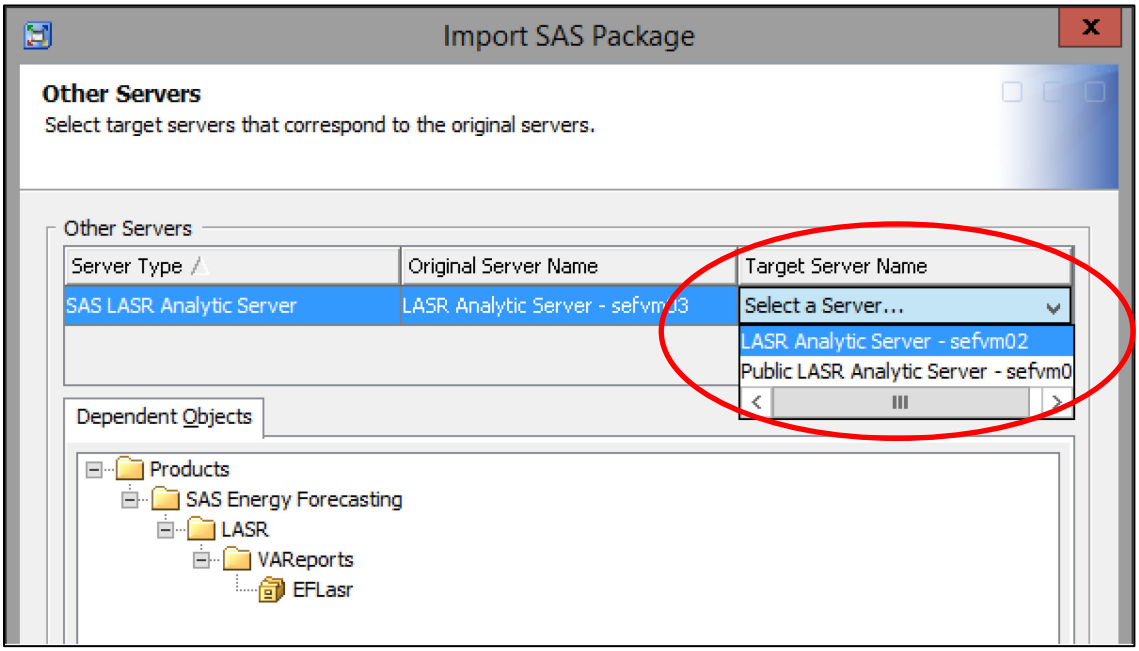
4. On the **About Metadata Connections** screen, click **Next**.



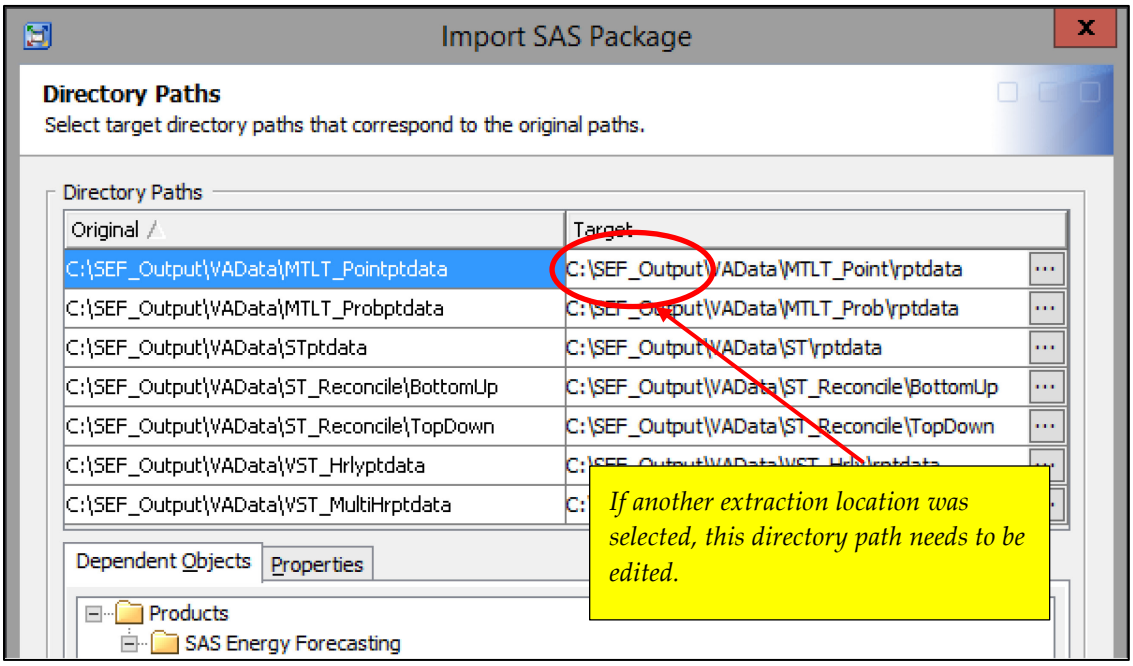
5. On the **SAS Application Servers** screen, ensure that the Target server is SASApp and then click **Next**.



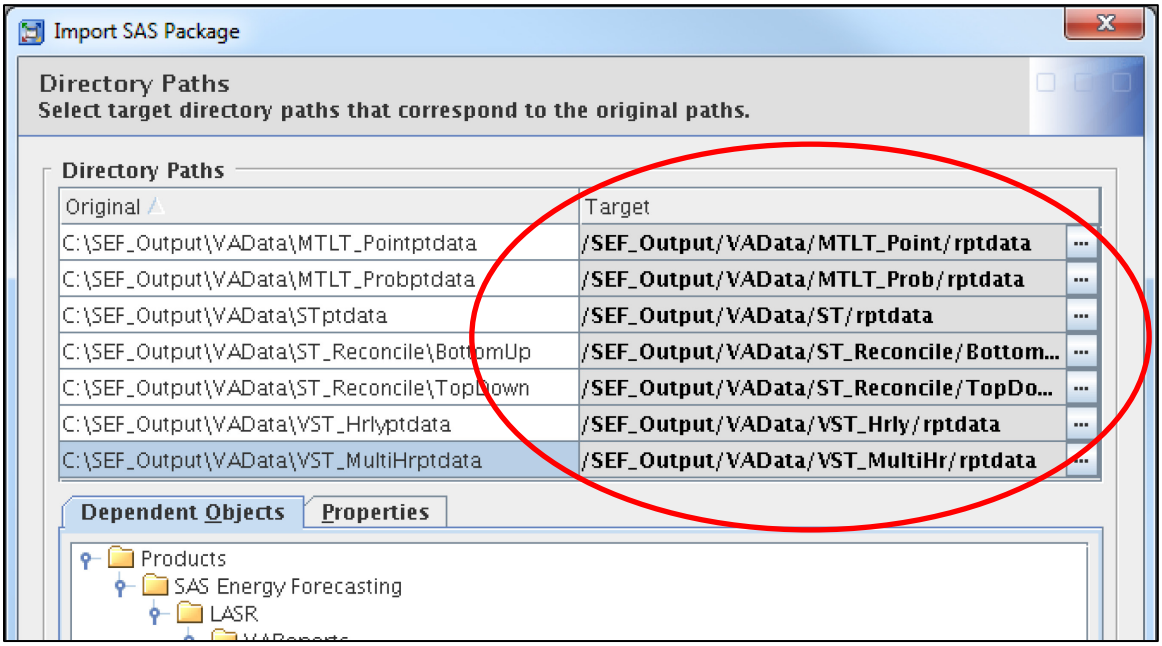
6. On the **Other Servers** screen, click the down arrow under **Target Server Name** and select "LASR Analytic Server". Click **Next**.



7. On the **Directory Paths** screen, click **Next** for installation on the Windows platform. If you selected a location other than **C:\SEF_Output** during the Sample Report Data Extraction step, you will need to edit the Target directory accordingly.



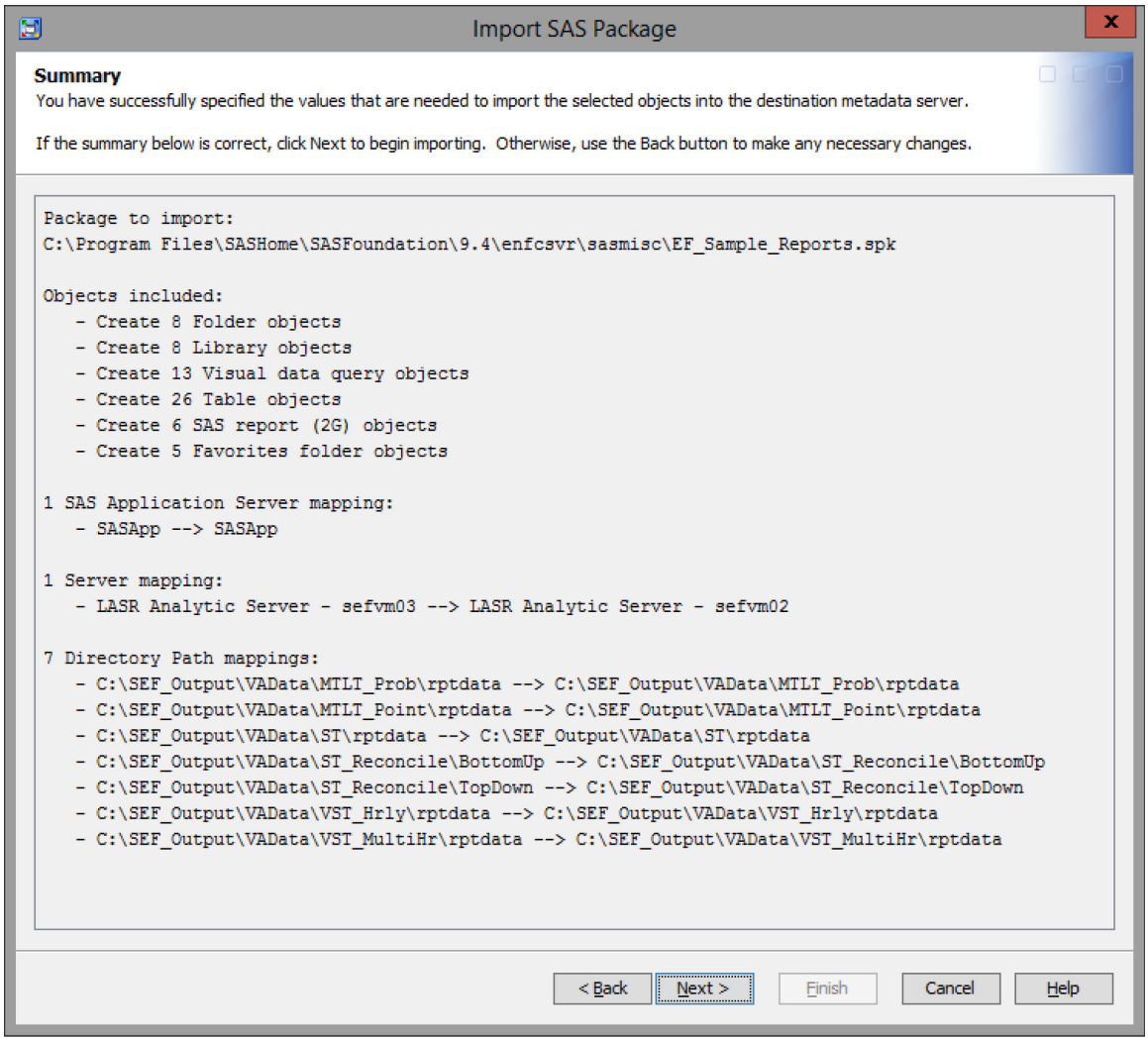
For installation on the Linux platform, the Target directories will need to be edited to conform to Linux format. If you selected a different location other than **/SEF_Output** during the Sample Report Data Extraction step, you will need to edit the Target directory accordingly.



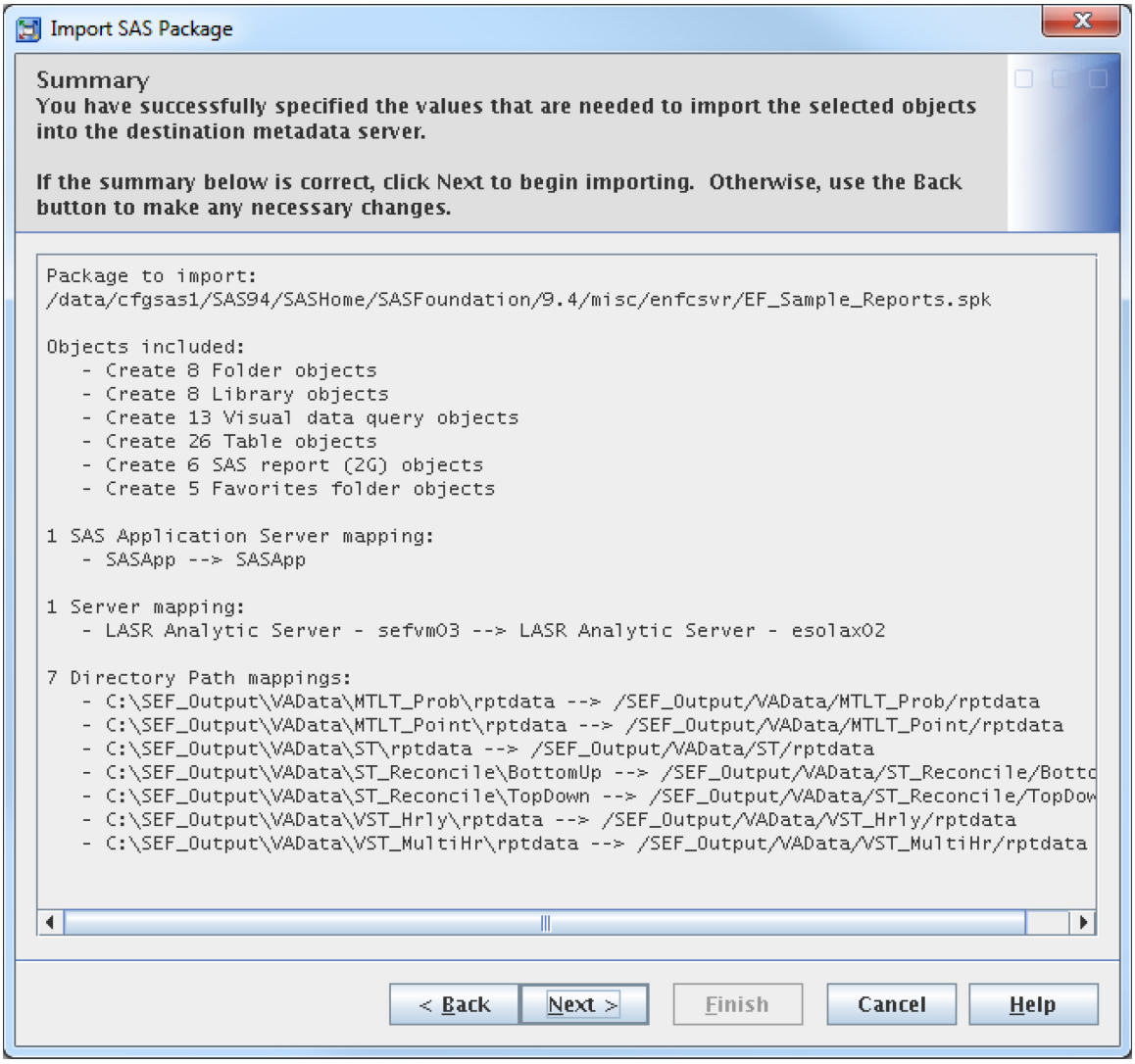
8. On the S**ummary** screen, click **Next**.

   If you extracted the Sample Report Data to a location other than **C:\SEF_Output**, then the Directory Path mappings will look different.

   Windows Platform

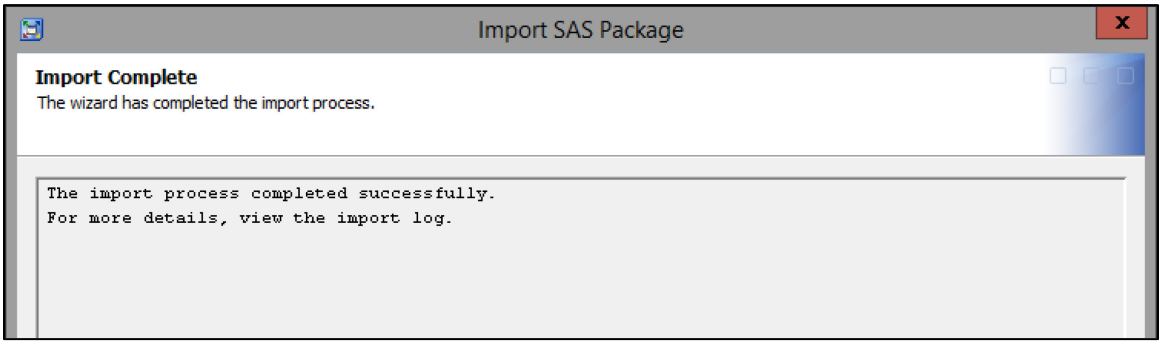


Linux Platform



If you extracted the Sample Report Data to a location other than **/SEF_Output**, then the Directory Path mappings will look different.

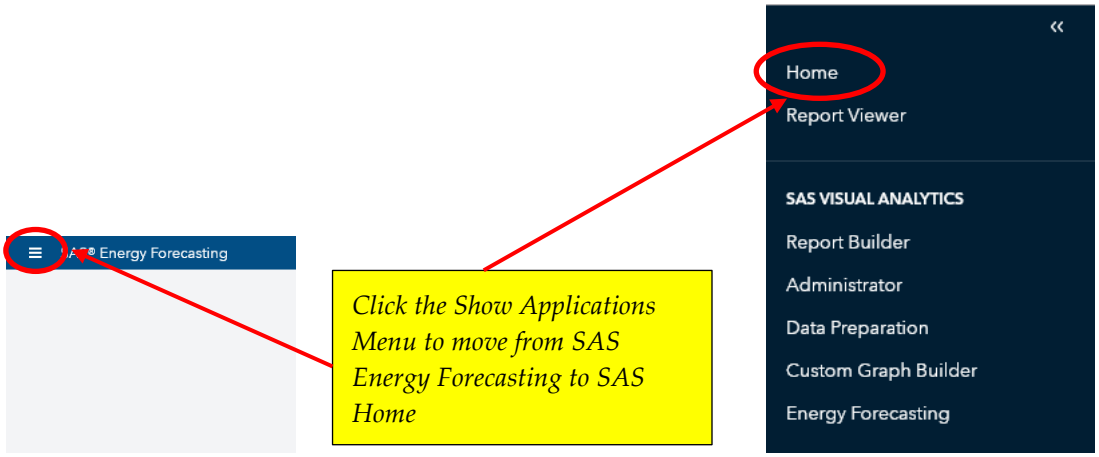
9. On the **Import Complete** screen, you should see a successful completion message. If you elected a directory other than SAS Folders/Products/SAS Energy Forecasting to import the EF_Sample_Reports.spk file, then you might see the import process complete successfully but with warnings messages. These warning messages are associated with the directory mapping for the Favorite folder objects, which will be corrected during the installation of the EF Sample Reports in SAS Visual Analytics in Step 3.



10. This completes Step 2. SAS Management Console can now be closed.

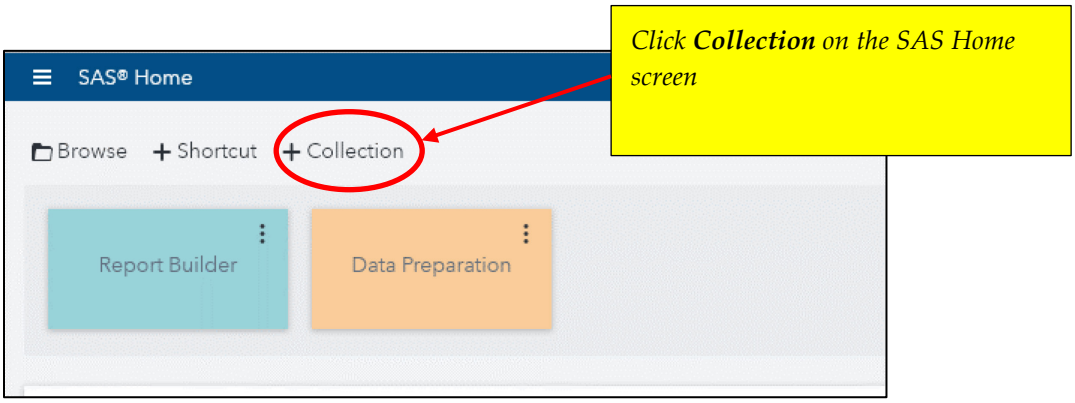
Step 3 – Install EF Sample Reports

1. SAS Home can be launched from SAS Energy Forecasting by selecting the Show Applications Menu.



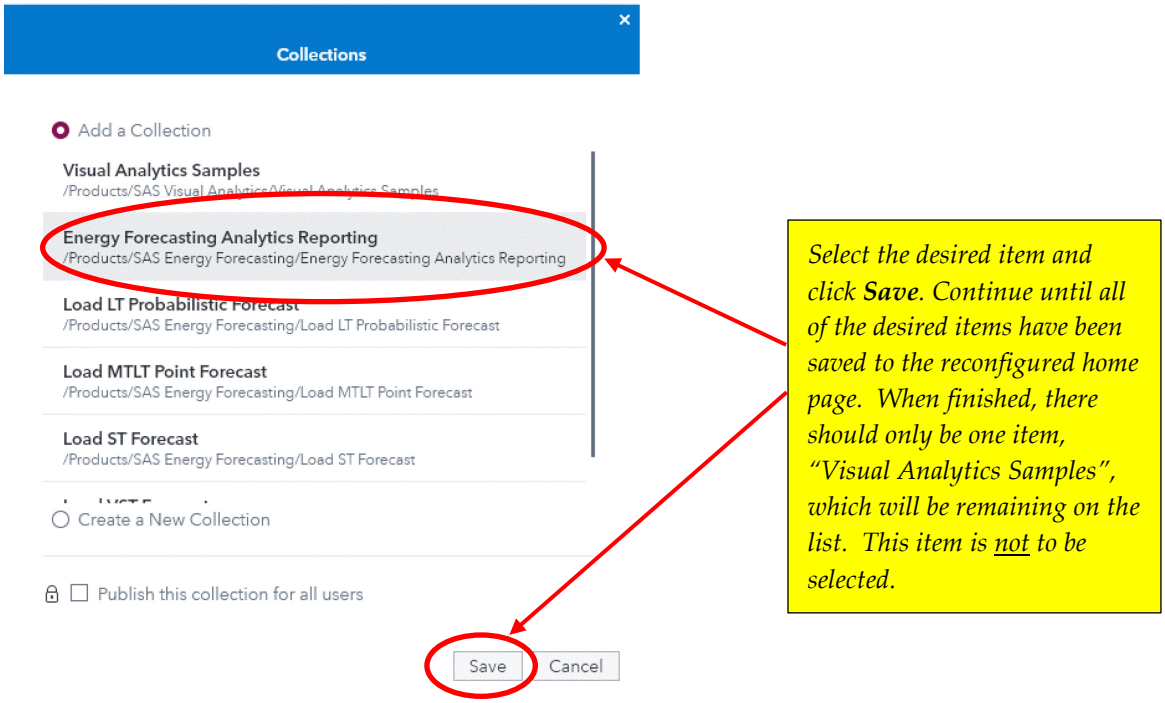
2. On the SAS Home page, the screen image can be configured to show links and favorite reports. Before the EF Sample Reports can be viewed, the SAS Home page needs to be reconfigured to simplify the process for loading the source data.

   At the SAS Home page, select "+ Collections" to begin the reconfiguration process.



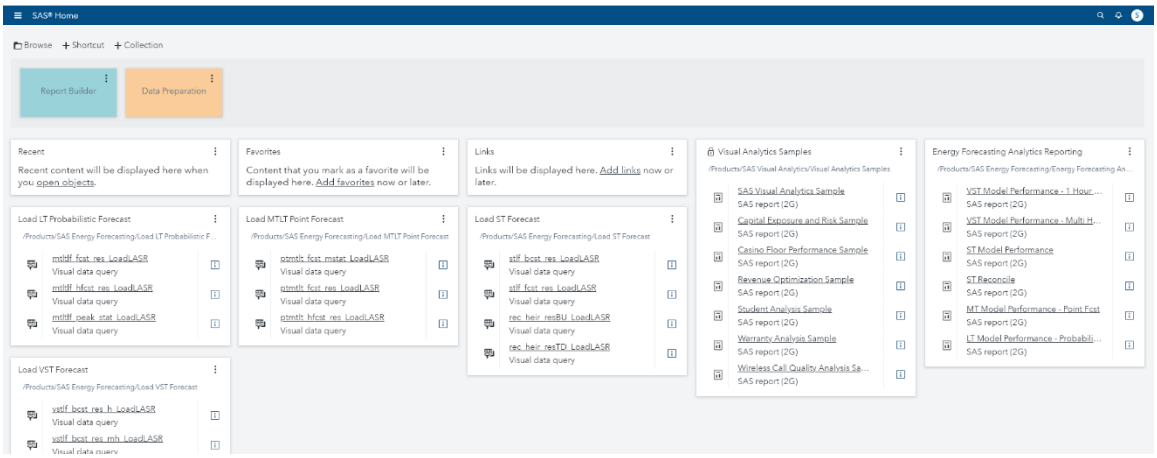
3. On the **Collections** screen, start selecting the items to be displayed on the reconfigured home page.

   a. Select "Energy Forecasting Analytics Reporting" and click **Save**.
   b. Return to Collections and select "Load LT Probabilistic Forecast" and click **Save**.
   c. Return to Collections and select "Load MTLT Point Forecast" and click **Save**.
   d. Return to Collections and select "Load ST Forecast" and click **Save**.
   e. Return to Collections and select "Load VST Forecast" and click **Save**.

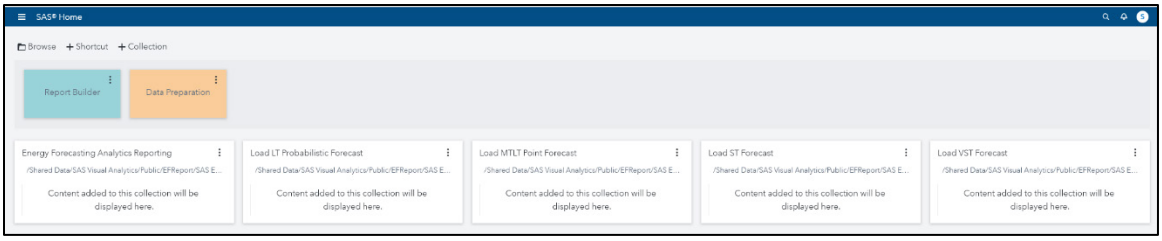


If you selected a directory other than /Products/SAS Energy Forecasting to import the EF_Sample_Reports.spk file, then the directory locations for the Collections will be different from those shown above.

4. The new SAS Home page should look like the following figure if the import location in Step 2 was specified as /Products/SAS Energy Forecasting.



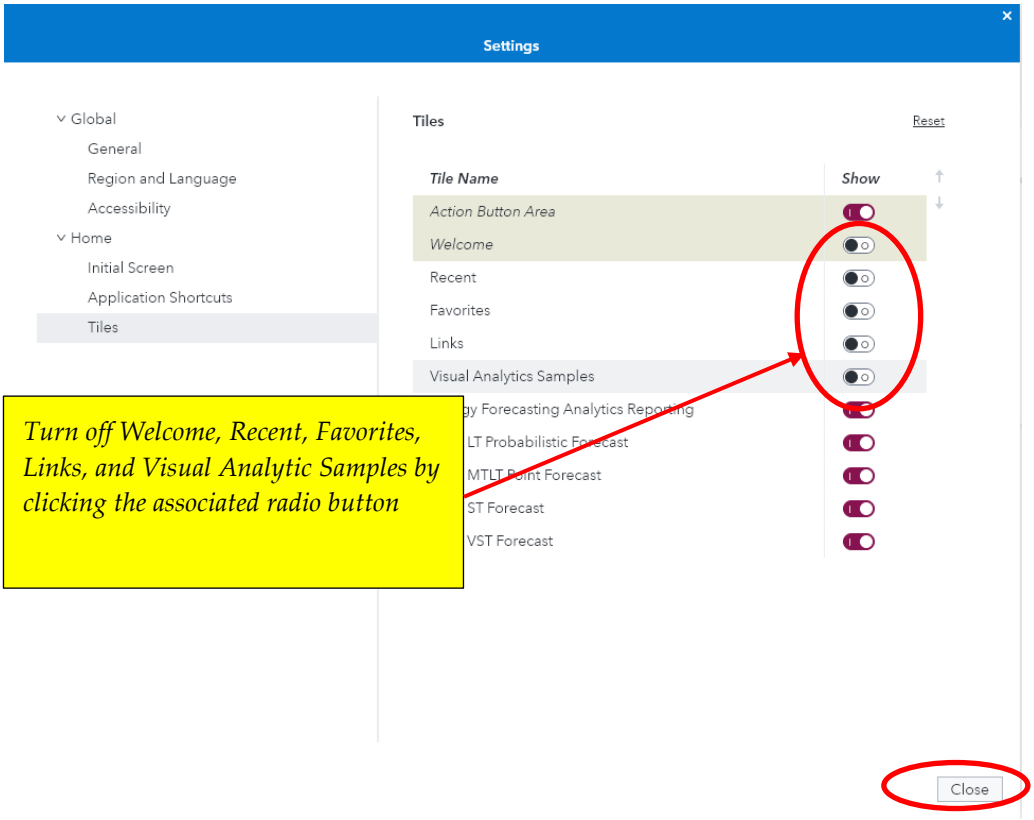
If another import location was selected in Step 2, the SAS Home page should look like the following figure with the Collection boxes displaying a different directory path and having incomplete data. The missing data will be added in subsequent steps.



There are some items that need to be removed from the SAS Home page to clean it up.

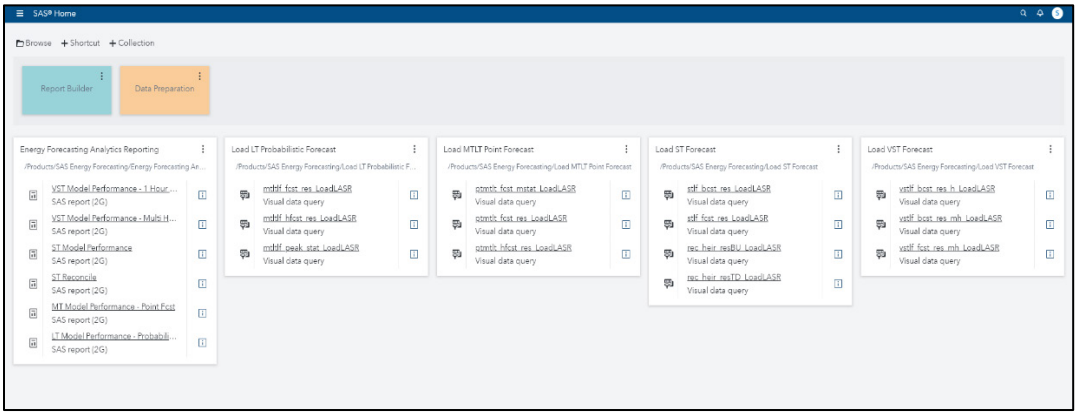
a. Click the user icon in the upper right-hand section and select **Settings** from the drop-down menu.

b. On the **Settings** screen, click **Tiles** on the left-hand side of the screen under **Home**. On the right-hand side of the menu page, turn off Welcome, Recent, Favorites, Links, and Visual Analytic Samples by clicking the radio buttons. When you are finished, click **Done** in the upper-right of the screen page to return to the SAS Home page.

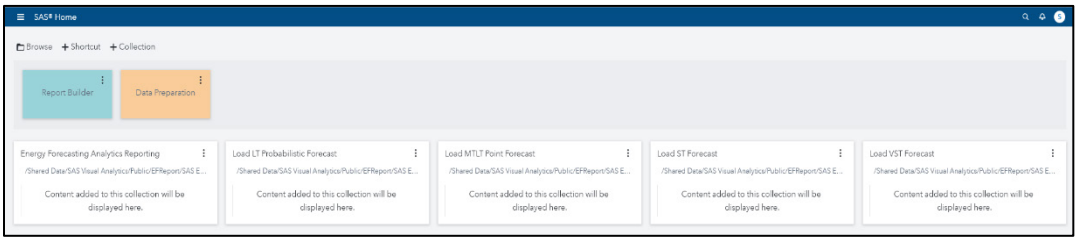


Turn off Welcome, Recent, Favorites, Links, and Visual Analytic Samples by clicking the associated radio button

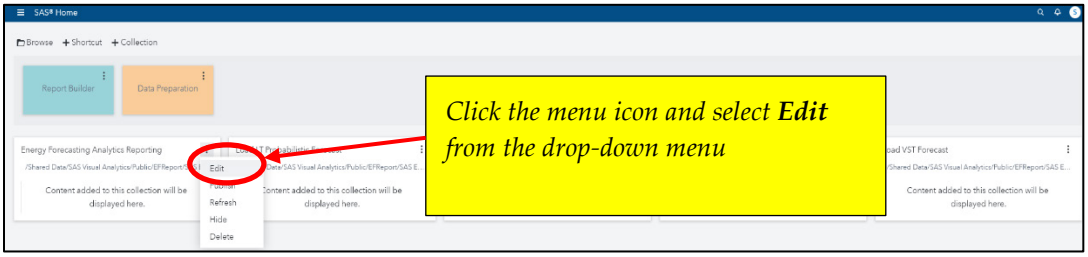
c. The reconfigured home page should now look like the following figure. If you used the Products/SAS Energy Forecasting folder to import the EF Sample Reports, you can skip the next several steps and proceed to Step 5.



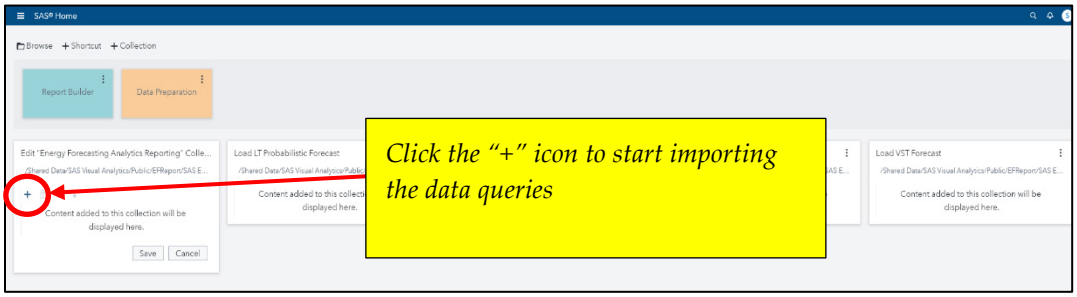
d. If another import location was selected in Step 2, then the SAS Home page should look like the following figure with the Collection boxes displaying a different directory path and having incomplete data.



The next step is to edit the Collection boxes to display the data queries that are associated with the directory path where the import of EF Sample Reports was made. Start with the **Energy Forecasting Analytics Reporting** collection and click the menu icon in the upper-right corner. This should bring up a drop-down menu from which you can select **Edit**.



e. Upon selecting **Edit**, a figure like the one below will be displayed. Click the "+" icon to start importing the data queries.



f. On the Open screen, follow the folders where EF Sample Reports was imported and select the EF Sample Reports from the SAS Energy Forecasting/LASR/VAReports folder as follows:

   i. Select **LT Model Performance – Probabilistic Fcst, and** then click **Open**. This will place the report into the Collections box. Click the "+" icon to select another report from the Open screen.

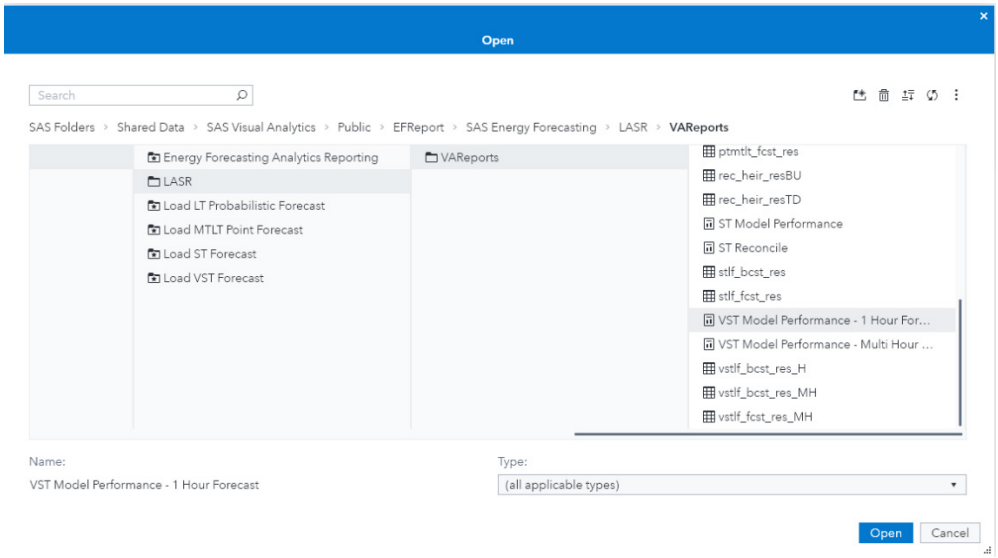
   ii. Select **MT Model Performance – Point Fcst, and** then click **Open**. This will place the report into the Collections box. Click the "+" icon to select another report from the Open screen.

   iii. Select **ST Reconcile, and** then click **Open**. This will place the report into the Collections box. Click the "+" icon to select another report from the Open screen.

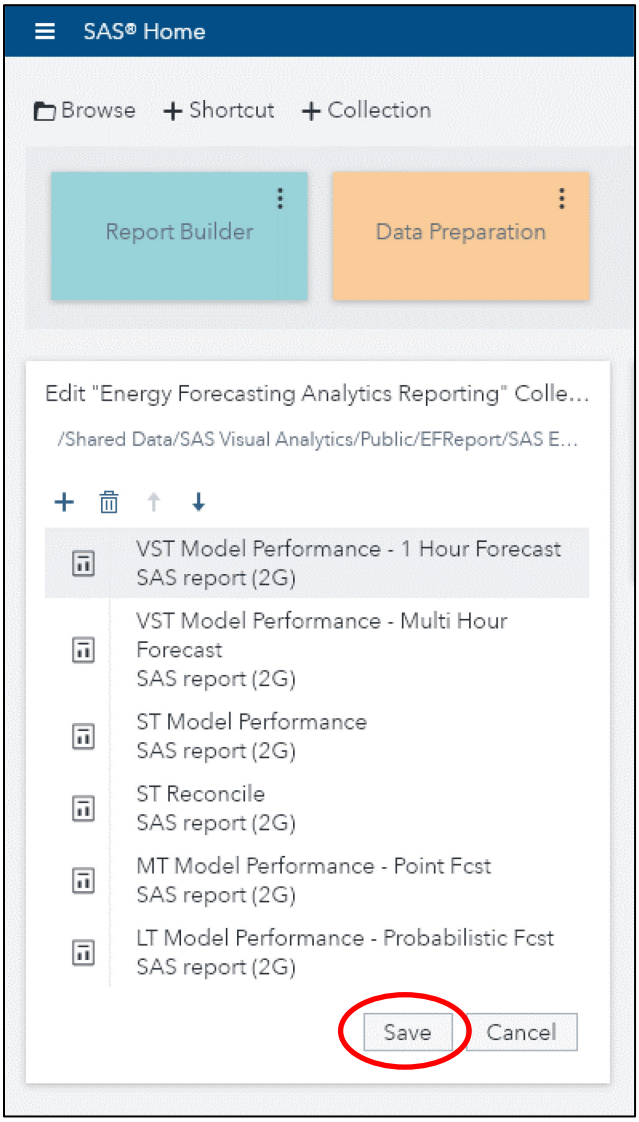
   iv. Select **ST Model Performance, and** then click **Open**. This will place the report into the Collections box. Click the "+" icon to select another report from the Open screen.

   v. Select **VST Model Performance – Multi Hour Forecast, and** then click **Open**. This will place the report into the Collections box. Click the "+" icon to select another report from the Open screen.

   vi. Select **VST Model Performance – 1 Hour Forecast, and** then click **Open**. This will place the report into the Collections box.



g. When all the EF Sample Reports have been selected, click **Save**. This completes the Collection for viewing the Energy Forecasting Analytics Reporting.



h. Next, edit the **Load LT Probabilistic Forecast** collection and follow the same steps performed previously.

   i. At the Open screen, follow the folders where EF Sample Reports was imported and select the data queries from the SAS Energy Forecasting/LASR/VAReports folder:

      1. Select **mtltlf_fcst_res_LoadLASR**, and then click **Open**.
      2. Select **mtltlf_hfcst_res_LoadLASR**, and then click **Open**.
      3. Select **mtltlf_peak_stat_LoadLASR**, and then click **Open**.

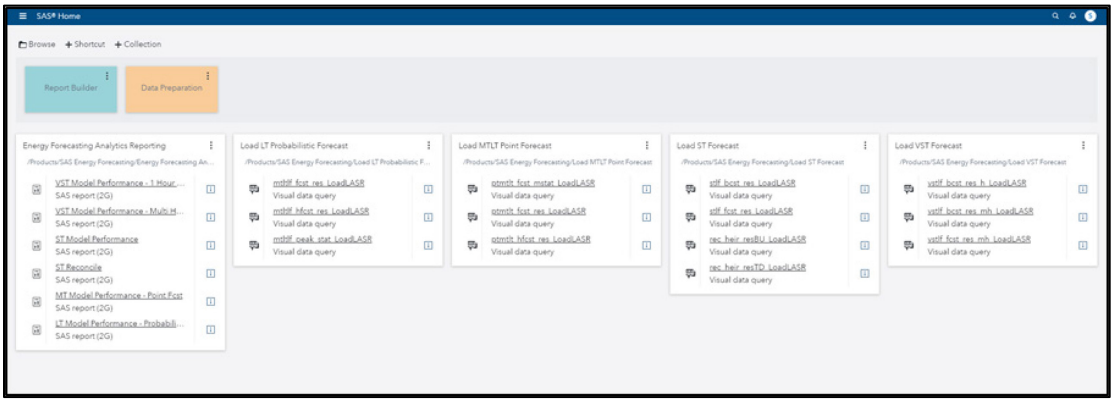
i. Next edit the **Load MTLT Point Forecast** collection and follow the same steps performed previously.

i. At the Open screen, follow the folders where EF Sample Reports was imported and select the data queries from the SAS Energy Forecasting/LASR/VAReports folder:
    1. Select **ptmtlt_fcst_mstat_LoadLASR**, and then click **Open**.
    2. Select **ptmtlt_fcst_res_LoadLASR**, and then click **Open**.
    3. Select **ptmtlt_hfcst_res_LoadLASR**, and then click **Open**.

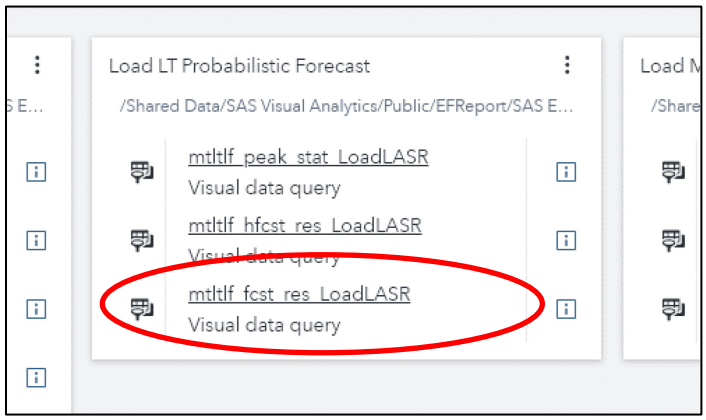
j. Next edit the **Load ST Forecast** collection and follow the same steps performed previously.
    i. At the Open screen, follow the folders where EF Sample Reports was imported and select the data queries from the SAS Energy Forecasting/LASR/VAReports folder:
        1. Select **stlf_bcst_res_LoadLASR**, and then click **Open**.
        2. Select **stlf_fcst_res_LoadLASR**, and then click **Open**.
        3. Select **rec_heir_resBU_LoadLASR**, and then click **Open**.
        4. Select **rec_heir_resTD_LoadLASR**, and then click **Open**.

k. Next edit the **Load VST Forecast** collection and follow the same steps performed previously.
    i. At the Open screen, follow the folders where EF Sample Reports was imported and select the data queries from the SAS Energy Forecasting/LASR/VAReports folder:
        1. Select **vstlf_bcst_res_h_LoadLASR**, and then click **Open**.
        2. Select **vstlf_bcst_res_mh_LoadLASR**, and then click **Open**.
        3. Select **vstlf_fcst_res_mh_LoadLASR**, and then click **Open**.

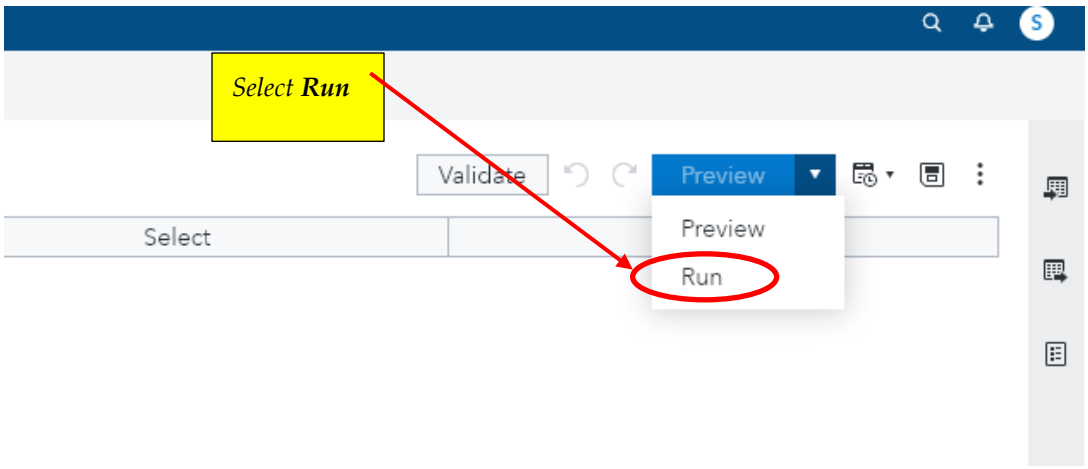
l. When completed, the SAS Home page should look like the figure below:



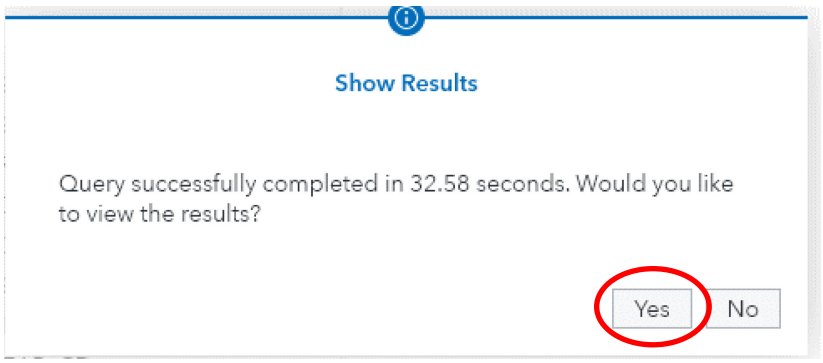
5. Load the **LT Probabilistic Forecast.**
   a. From the SAS Home page, click **mtltlf_fcst_res_LoadLASR.**



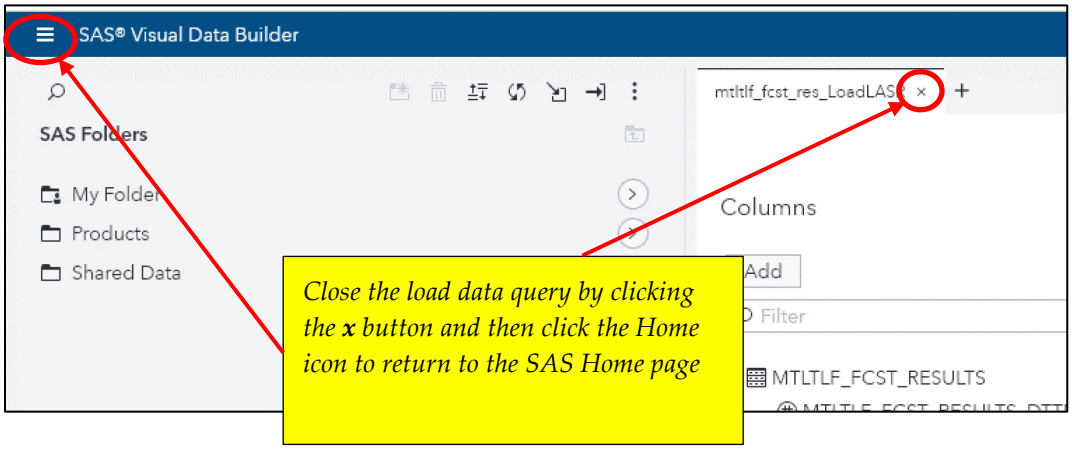
On the **Prepare Data** screen that appears, click **Run** to run the data load query.



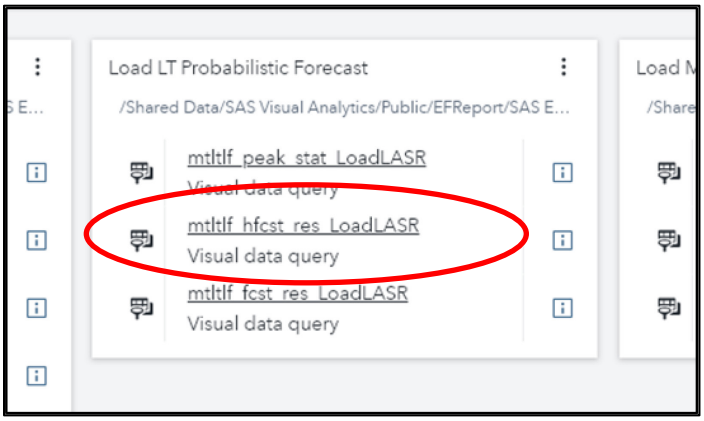
The **Show Results** screen should indicate a successful completion of running the load data query. There is no need to see the data, so click **No**.



Close the load data query and return to the SAS Home page.



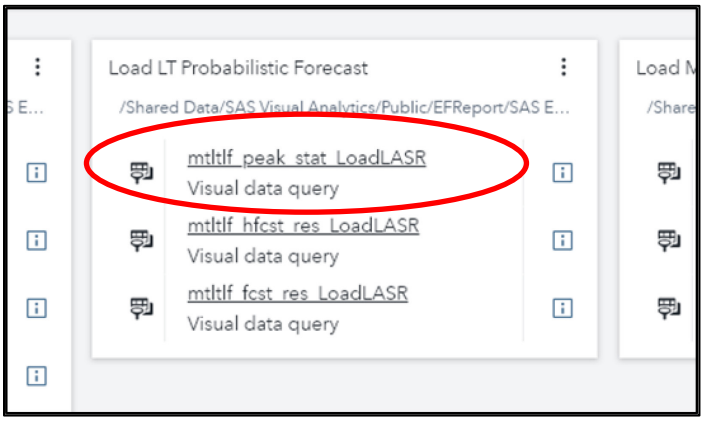
b. From the SAS Home page, click **mtltlf_hfcst_res_LoadLASR.**



On the **Prepare Data** screen that appears, click **Run** to run the data load query.

The **Show Results** screen should indicate a successful completion of running the load data query. There is no need to see the data, so click **No**. Close the load data query and return to the SAS Home page.

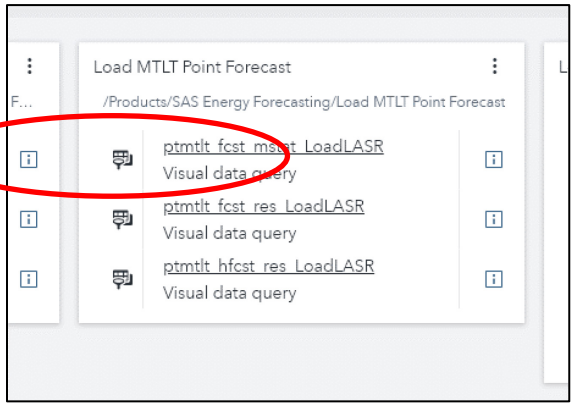
c. From the SAS Home page, click **mtltlf_peak_stat_LoadLASR.**



On the **Prepare Data** screen that appears, click **Run** to run the data load query.

The **Show Results** screen should indicate a successful completion of running the load data query. There is no need to see the data, so click **No**. Close the load data query and return to the SAS Home page.

6. Load the **MTLT Point Forecast**
   a. From the SAS Home page, click **ptmtlt_fcst_mstat_LoadLASR.**



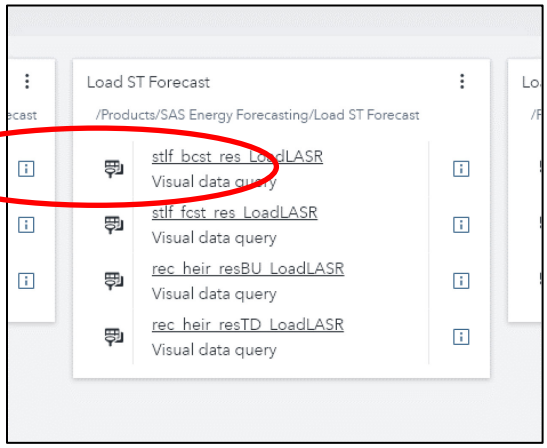
   Follow the same steps as performed in loading the LT Probabilistic Forecasts.

   b. From the SAS Home page, click **ptmtlt_fcst_res_LoadLASR.**

   c. From the SAS Home page, click **ptmtlt_hfcst_res_LoadLASR.**

7. Load the **ST Forecast.**

   a. From the SAS Home page, click **stlf_bcst_res_LoadLASR.**



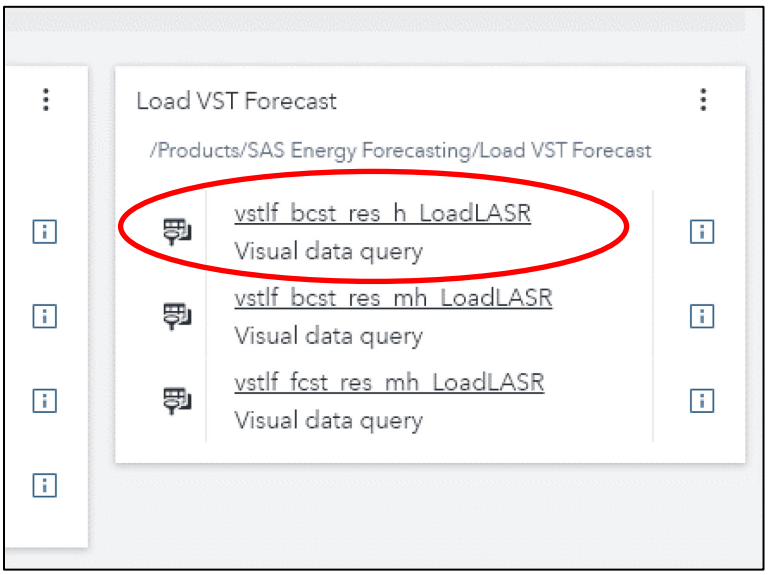
   Follow the same steps as previously performed

   b. From the SAS Home page, click **stlf_fcst_res_LoadLASR**

   c. From the SAS Home page, click **rec_heir_resBU_LoadLASR**

d. From the SAS Home page, click **rec_heir_resTD_LoadLASR.**

8. Load the **VST Forecast.**
   a. From the SAS Home page, click vstlf**_bcst_res_h_LoadLASR.**



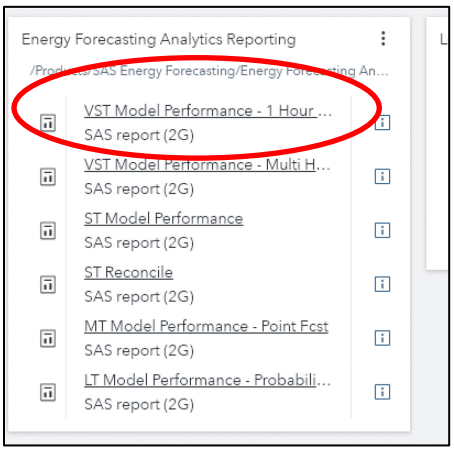
   Follow the same steps as previously performed.

   b. From the SAS Home page, click **vstlf_bcst_res_mh_LoadLASR.**

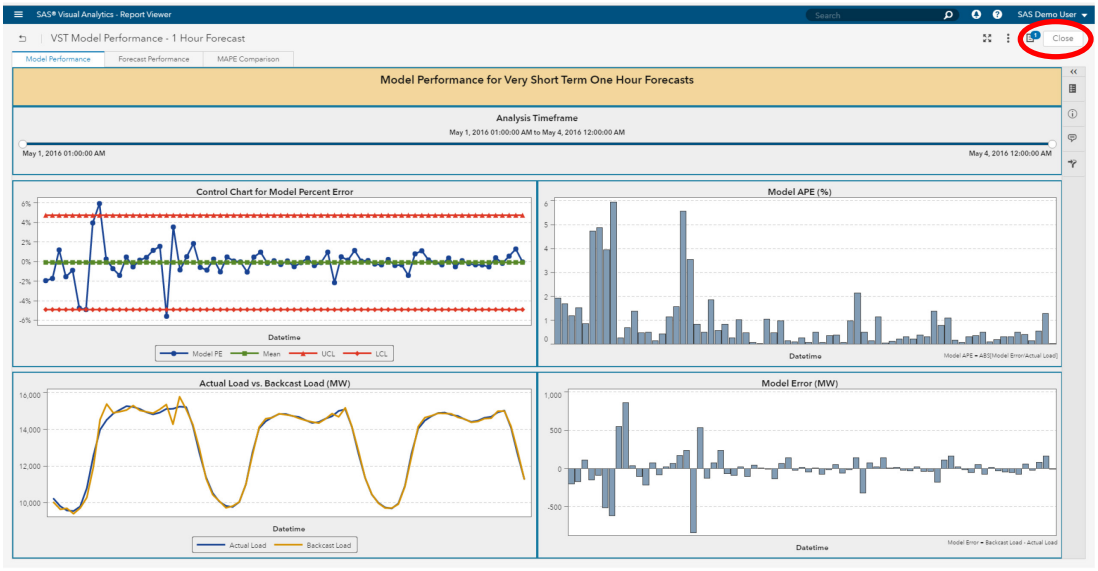
   c. From the SAS Home page, click **vstlf_fcst_res_mh_LoadLASR.**

This completes the loading of the forecast data queries. The next step produces the sample reports using SAS Visual Analytics.

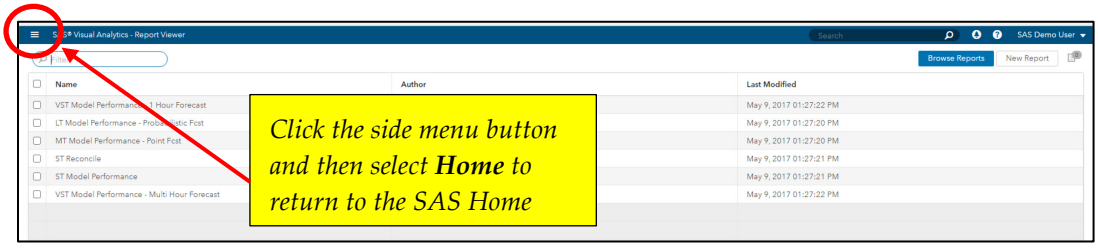
9. Load the **Energy Forecasting Analytics Reporting.**
   a. From the SAS Home page, click **VST Model Performance – 1 Hour Forecast.**



After reviewing the report, close the page by clicking **Close** at the top right-hand side of the screen.



At the **Report Viewer** screen, click the side menu button, and then select **Home** at the top to return to the SAS Home page.



b. From the SAS Home page, click **VST Model Performance – Multi Hour Forecast**

   After viewing the report, return to the SAS Home page to select the next report.

c. From the SAS Home page, click **ST Model Performance.**

   After viewing the report, return to the SAS Home page to select the next report.

d. From the SAS Home page, click **ST Reconcile.**

   After viewing the report, return to the SAS Home page to select the next report.

e. From the SAS Home page, click **MT Model Performance – Point Fcst.**

   After viewing the report, return to the SAS Home page to select the next report.

f. From the SAS Home page, click **LT Model Performance – Probabilistic Fcst.**

Now that all Energy Forecasting sample reports have been loaded, they can be viewed by returning to the SAS Home page and selecting the report to view from the **Energy Forecasting Analytics Reporting** box.

Chapter 5 — Running Update in Place

Prior to executing an update in place (UIP), project folders might have been created with insufficient permissions, meaning that only the owner of the project can update the contents of the project folder. During an UIP, updates are being attempted by the installer on datasets contained within these folders and UIP fails as a result.

Prior to running the UIP, the permissions on all of these project folders need to be changed to grant the installer account permissions to update the datasets contained within the folders. Perform the following steps prior to UIP to modify permissions on all the project folders:

1. Identify all project locations:
   Using the UI, right-click each project on the source system and under Properties make note of the "Project Data Path". Make a list of all of these paths.

   If projects were created in batch, someone familiar with the locations of these projects will need to be consulted.

2. Change Permissions on project folders:
   Using the list from Step 1, change the permissions on all of these folders and their contents allowing full control by the installer account as well as other accounts that need update access, for example, the SAS Energy Forecasting Server User account (sassef). The operating facilities might be used to do this, for example, by using the chmod command on Linux.

Chapter 6 — Running Migration

To perform a migration, refer to *SAS Intelligence Platform: Migration Guide* for instructions. These instructions can be found at:

https://support.sas.com/en/documentation/install-center/94/intelligence-platform.html

After the successful completion of the migration, you will need to manually copy over your input and output data for existing projects in SAS Energy Forecasting. In order not to miss any of the locations, you can right-click each project on the source system and under **Properties** make note of the "Input Path" and "Project Data Path". The data in these locations will need to be transferred to your target system. Be sure to give full permissions in these data locations for the data migration to be run afterwards. You do not need to manually copy your data if it resides in the configuration directory **Lev1/SASApp/Data/EnergyForecasting** as it will have already been migrated by the SAS Migration Utility (SMU).

After the data has been copied over, it will need to be migrated to the 4.3 data model. There is a migration SAS program, sef_migration41.sas, that will need to be run. This program can be found at **SASHome\SASEnergyForecastingServerConfiguration\4.3\Config\Deployment\SASCode** for Windows and at **SASHome/SASEnergyForecastingServerConfiguration/4.3/Config/Deployment/SASCode** for Linux. Following are the steps to execute this program:

1. Launch SAS as the SAS Administrator (See Appendix 1) and open sef_migration41.sas.

2. Submit the sef_migration41 SAS program.

Appendix 1: Launch SAS As the SAS Administrator

In order for SAS Energy Forecasting macros, for example, `%seftree`, to function properly, you must invoke SAS so that it will automatically connect to the SAS Energy Forecasting PostgreSQL database with the appropriate authorization. The account that is invoking SAS as the SAS Administrator, such as the SAS installer account, must be a SAS administrator and have access to the following path:

%install root%/%config%/%level%/SASApp

This path is configured during install.

This is an example of launching SAS as an Administrator on Windows:

c:\sas\config\lev1\sasapp\sas.bat -metauser sasadm@saspw –metapass <password>

This is an example of launching SAS as an Administrator on Linux:

/install/cfgsas94/SASConfig/Lev1/SASApp/sas.sh -metauser sasadm@saspw –metapass <password>

Appendix 2: Access the Help Using Local PDF Files

If your site does not have web access and you try to open the Help from the application, you will see an error. Perform the following steps to download a PDF package of the documentation. Then you can configure the application to access this documentation from the installation directory or from a custom location.

1. Access the PDF package download page at https://documentation.sas.com/download?softwareId=ENFCMID&softwareVersion=4.3. Select the PDFs that you want to download, and then download the ZIP file.
2. Unzip the file. In the ZIP file, there is a language-abbreviation folder that identifies the language of the PDF files. For example, if you download the English version of these documents, the language-abbreviation is en. This directory contains the PDF files that you need.
3. Copy the files into a directory that can be accessed by others at your site.
4. You can configure a Help menu item in the application to link to your local copy of the documentation. In this case, download the PDF package and expand the condensed package in a network location that your application can recognize. For more information about providing access to a local version of the documentation, see the *SAS Intelligence Platform: Installation and Configuration Guide,* which is located at:

   https://support.sas.com/en/documentation/install-center/94/intelligence-platform.html
5. Test to make sure that documentation can be accessed by others.

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