

Exploiting the new SAS® Enterprise Guide® Programming Interface

SAS® 9.4

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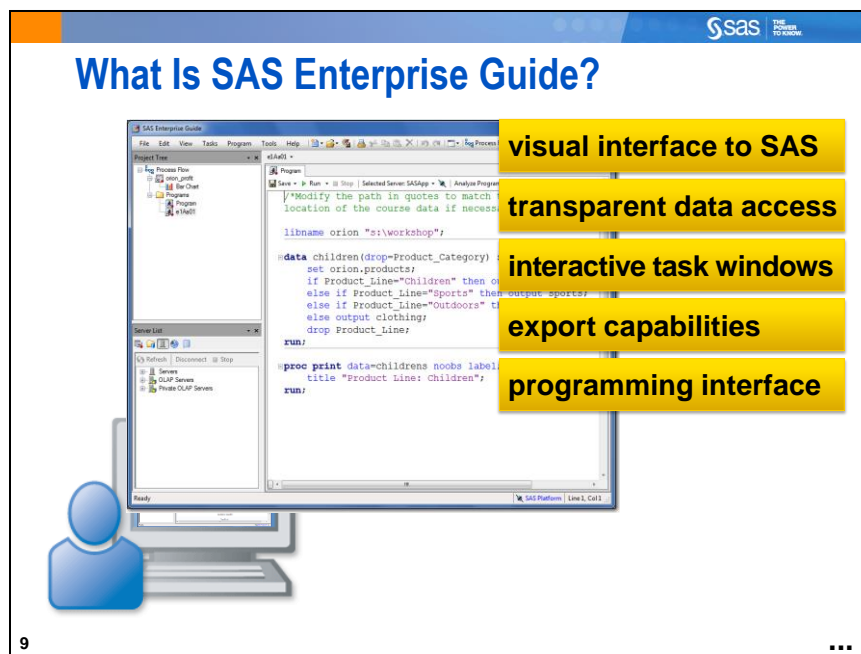
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Introducing SAS® Enterprise Guide®

SAS® Enterprise Guide® is a SAS client that can be used to write SAS code, either in the traditional way or through the numerous point and click tasks that are available. It is a Client Server application so all SAS code will run on the server automatically. This means there is no longer any need to write RSubmit or EndRsubmit in your programs.



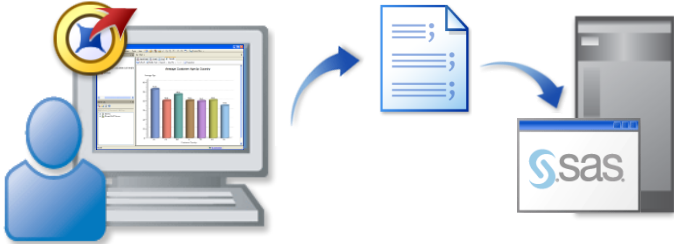
All data will reside on the server which means there will be no need to download the data either onto the LAN or onto the PC, therefore there is no need to use PROC DOWNLOAD and PROC UPLOAD. The server does not have a direct connection to the LAN or the PC Client so all references made in LIBNAMES, FILENAMES, %INCLUDE and file references made in ODS statements will need to be changed to locations on the server. There is also no need to use server libraries (SLIB refs) these can be removed from the program as well.

Enterprise Guide uses projects. Projects can contain multiple process flows which themselves can contain any number of programs, tasks and references to data sources.



Behind the Scenes

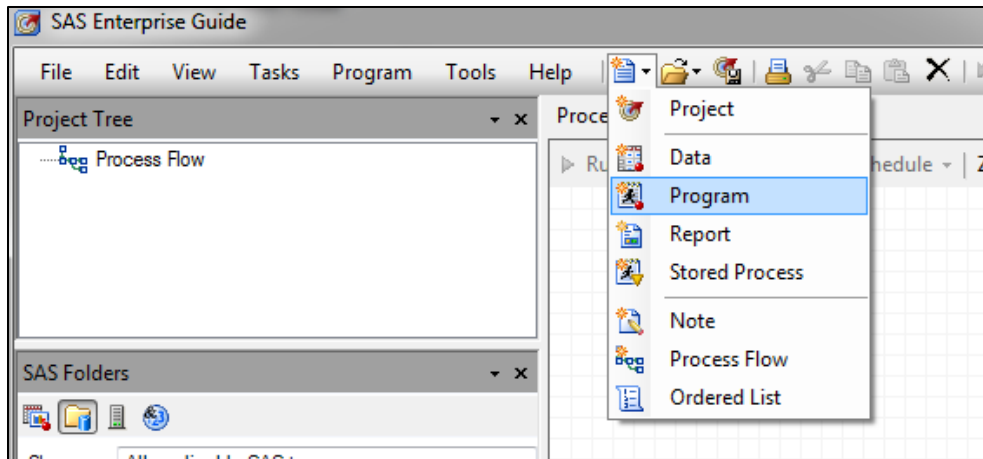
Enterprise Guide prepares SAS code, either generated through point-and-click tasks or written by the user, and submits the code to SAS.



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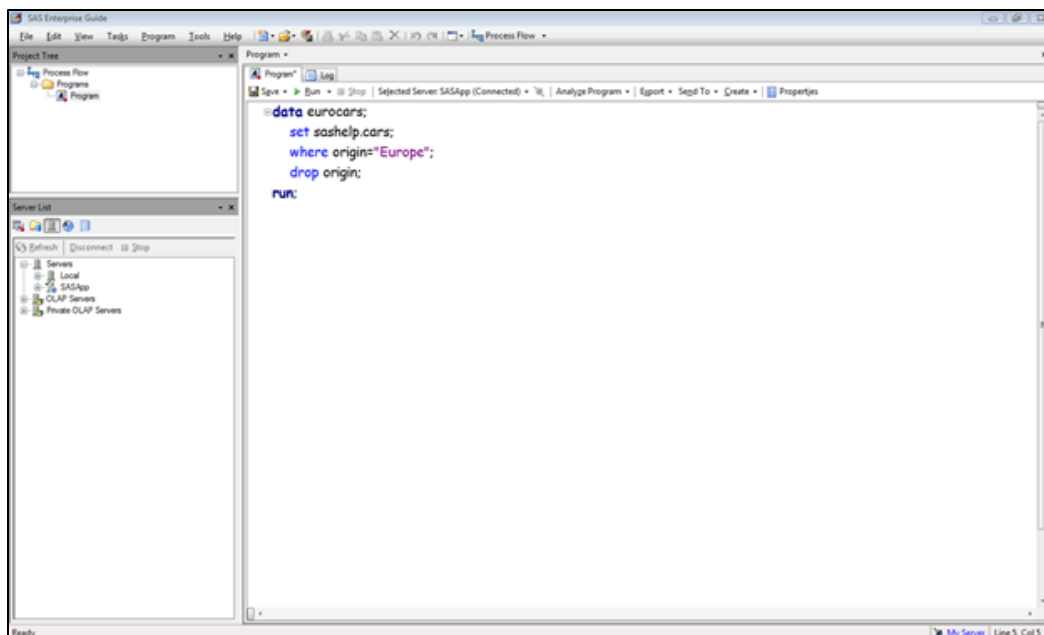
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Start Programming with SAS® Enterprise Guide®



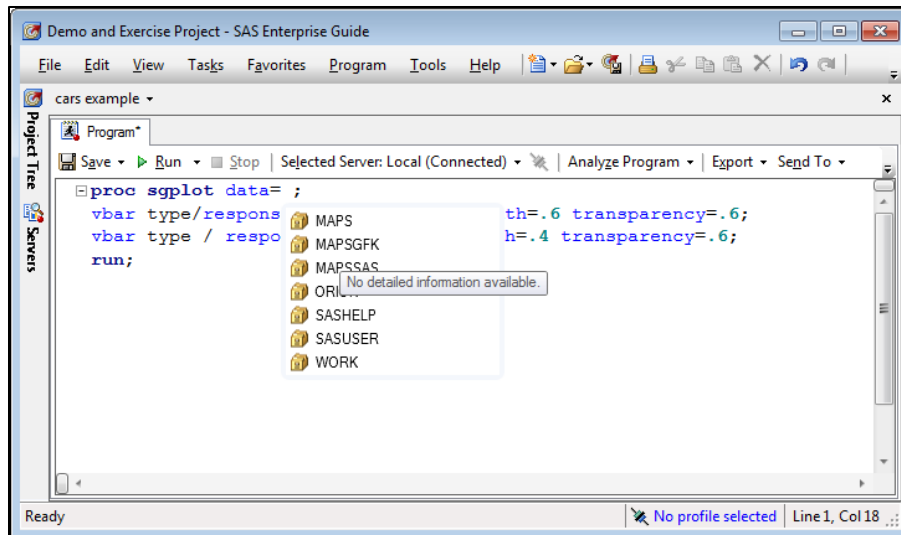
To create a new program in Enterprise Guide click on the “**New**” icon and choose **Program**.

Type your code in as you would in PC SAS. Below shows a program that subsets a dataset.

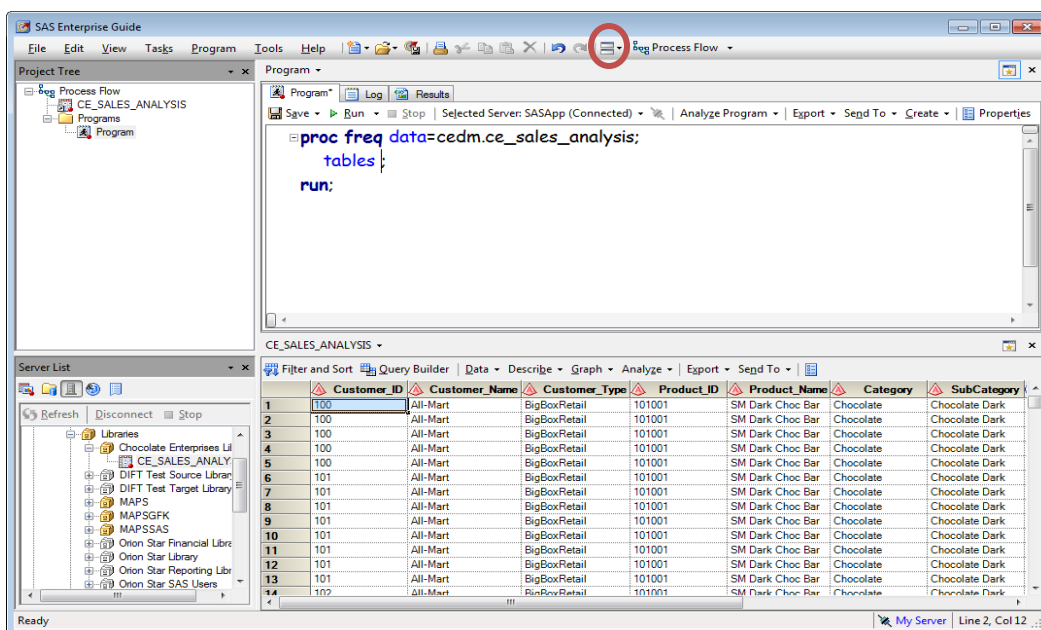


To execute the code click on **Run** (or press F8). To return to the process flow click “**Process Flow**” or press F4. You can right click on the program to rename it, this will help with the maintenance of the Project. After a program or task has run you will see some additional tabs become available, one will be for the log and any others will be for the output and any data sets created.

Additional programs can be written within a project, they will be displayed as separate nodes on the process flow. In the example below CTRL+L has been used to show the available libraries. The library can be selected by either clicking on it or alternatively by typing the name until it becomes highlighted. Once it is highlighted it will autocomplete by keying the ".". This will then go onto show the data sets available in that library.

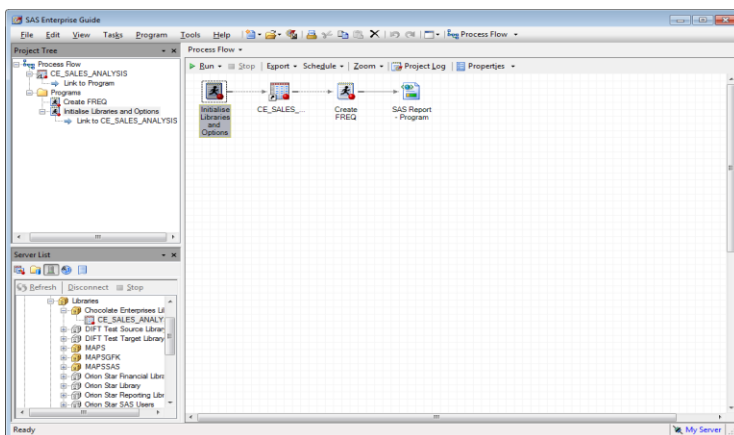


It is possible to split the screen to enable you to view two panes at the same time. This might be useful when typing in variable names as shown in the image below.

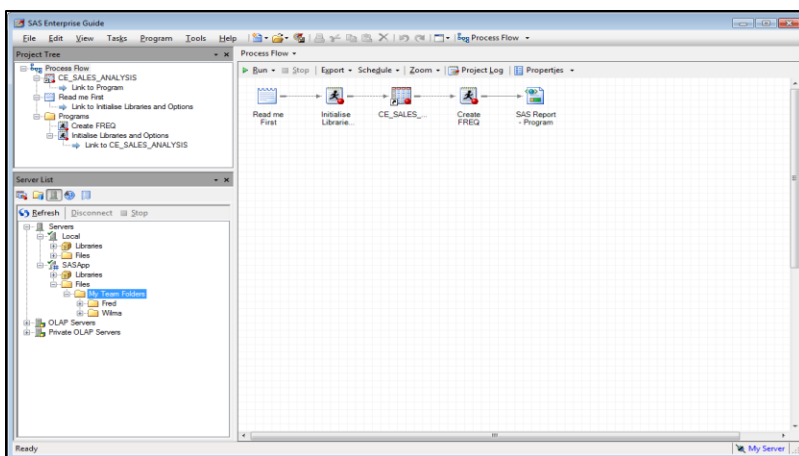


Nodes can be connected together to make the process flow more visual, especially if the programs are renamed with meaningful names. To connect nodes together, for example a data set node to a program node.

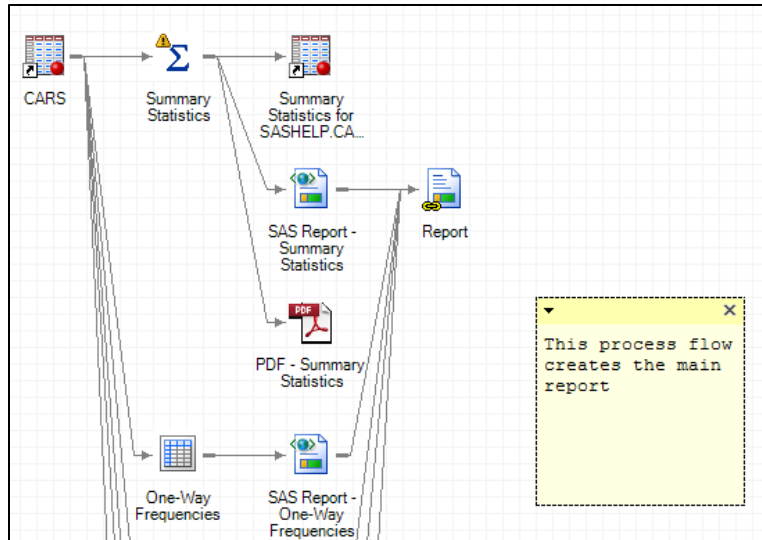
1. Click once on the data set, notice that the mouse looks like a compass.
2. Move the mouse to the edge of the icon, notice that it changes to a simple cross.
3. When it becomes a simple cross hold down the mouse button and drag the arrow to the program you want to connect to and release the mouse button.



You can still add comments to your programs as before, you can also add “notes” to the process flow to make it easier to maintain and document. Notes can be connected to any node. To create a note, ensure that no nodes are selected and then click on the “new” icon and choose note. It is then possible to put any text you feel is appropriate. Once you exit the note, you can rename it, for example “Read Me First” and then link it to a node. In this case we have linked the note to the first program as shown in the diagram above.

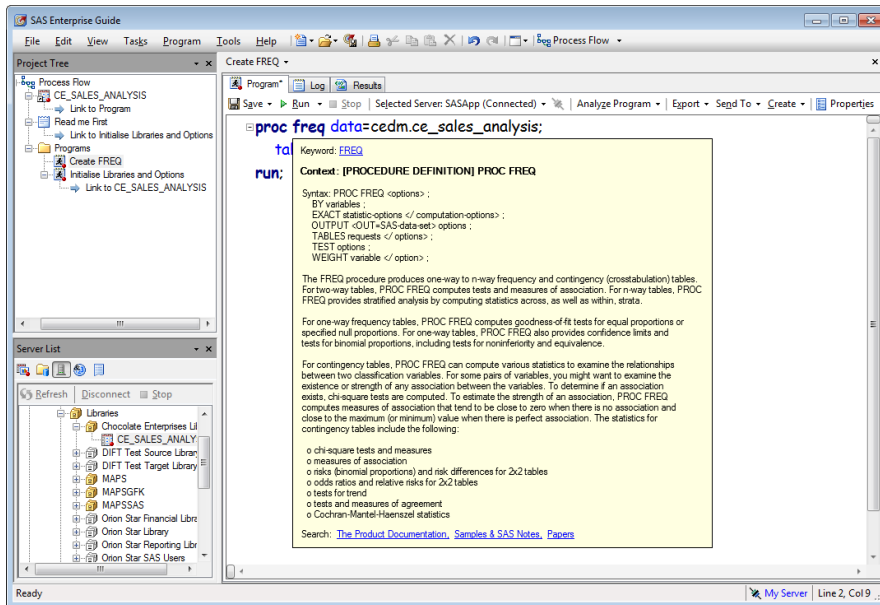


A new feature for notes in Enterprise Guide 6.1 is the capability to see the full note on the process flow, almost like sticking a post-it note on top of your diagram. It can be expanded and collapsed as you see fit.



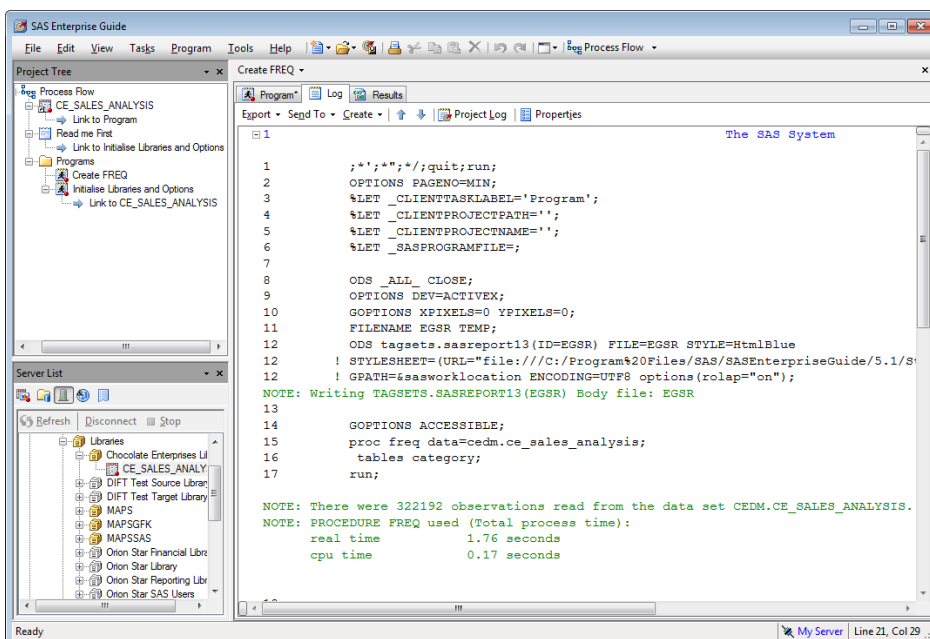
The Process flow can be printed and stored for documentation and maintenance purposes. If the note is expanded when you print the process flow then the note will be printed as well.

To return to a program, double click on the Program node in the process flow. If you mouse over the code it will show information about that code, its syntax and what it does.



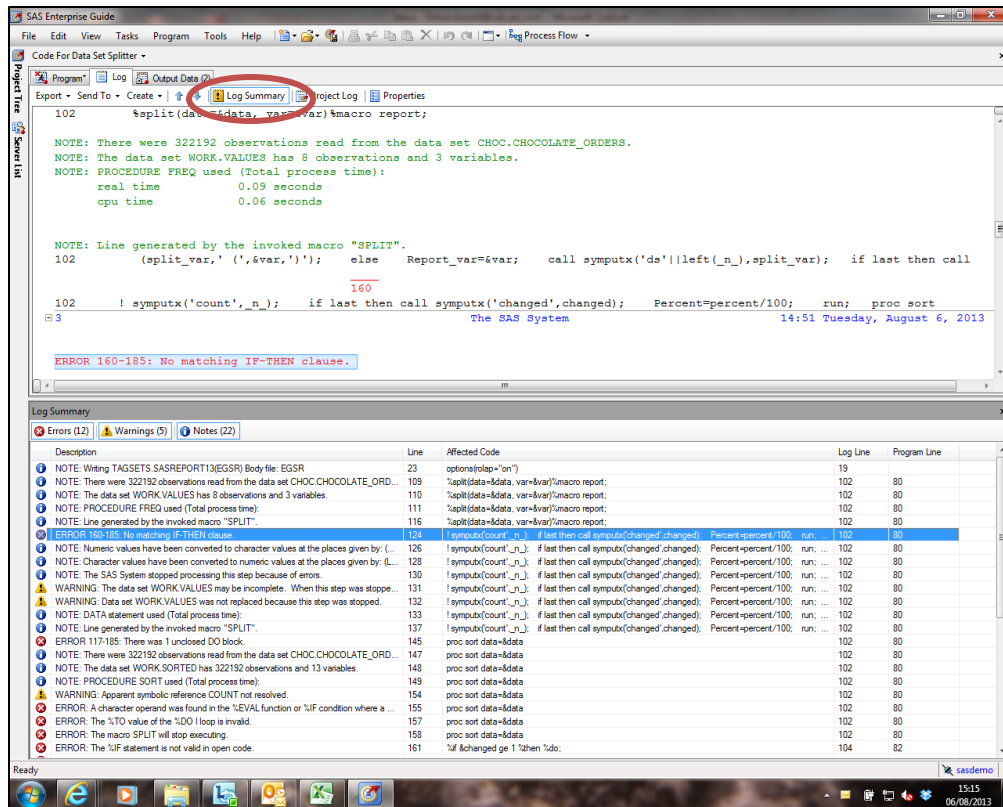
The Log tab is always available when a program is executed. This Log will refresh every time the program or task is run.

In the Log you will notice extra statements generated by Enterprise Guide these can be switched off using the appropriate option, as discussed in the Options for SAS Programmers section later in this document. You may also notice the NOTES are in green, this can also be changed if required using the programming options.



New Log Summary SAS® Enterprise Guide® 6.1

In Enterprise Guide version 6.1 there is a new Log screen available called the Log Summary. It will pop up automatically but you can enable it or disable it by clicking on the icon circled below. Once you switch it off it will remain off every time you run a SAS program until you click the icon to re-enable it.



At the top of the of the Log Summary window there are 3 buttons that allow you to show the Errors, Warnings and Notes. The Screenshot below shows the Log Summary after the Notes has been de-activated. Clicking on either the Error, Warning or Note listed will take you straight to the relevant line in the SAS program.

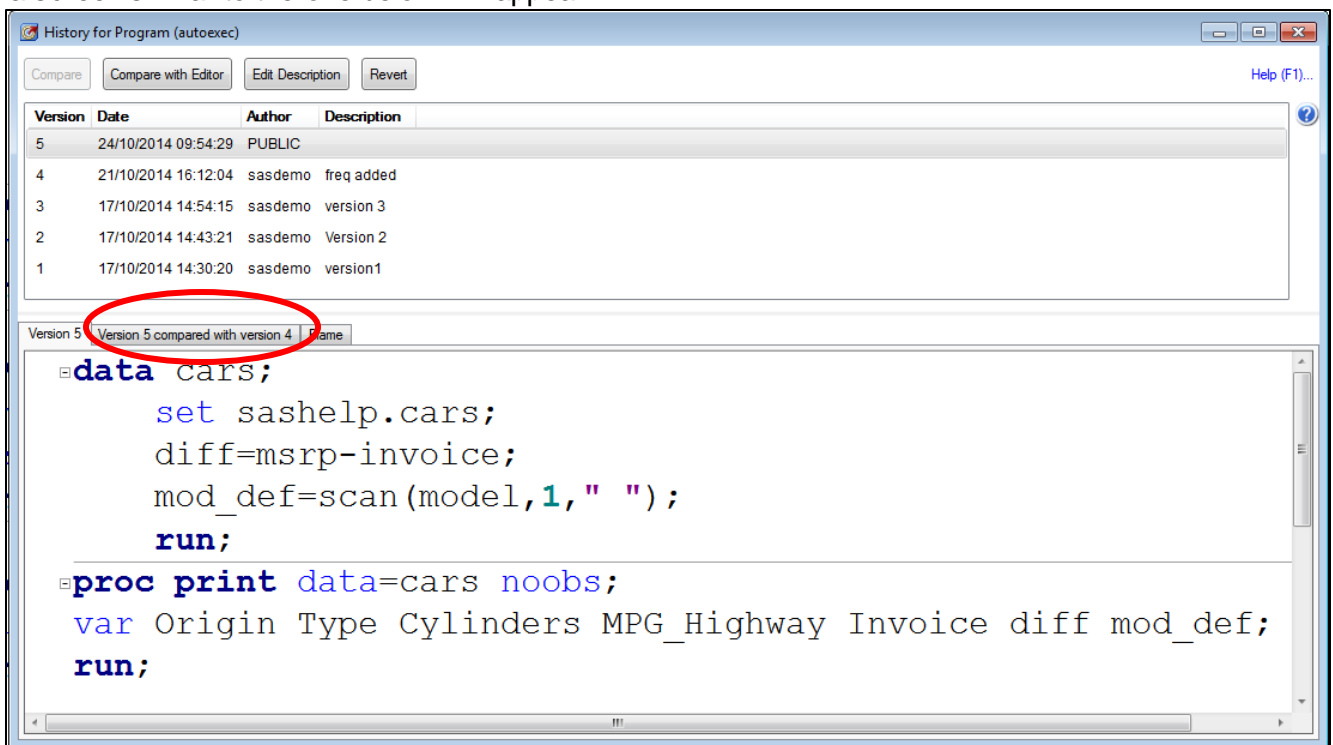
Log Summary					
Errors (12) Warnings (5) Notes (22)					
Description	Line	Affected Code	Log Line	Program Line	
ERROR 160-185: No matching IF-THEN clause.	124	! symputx('count',_n_); if last then call symputx('changed',changed); Percent=percent/100; run; ...	102	80	
WARNING: The data set WORKVALUES may be incomplete. When this step was stoppe...	131	! symputx('count',_n_); if last then call symputx('changed',changed); Percent=percent/100; run; ...	102	80	
WARNING: Data set WORKVALUES was not replaced because this step was stopped.	132	! symputx('count',_n_); if last then call symputx('changed',changed); Percent=percent/100; run; ...	102	80	
ERROR 117-185: There was 1 unclosed DO block.	145	proc sort data=&data	102	80	
WARNING: Apparent symbolic reference COUNT not resolved.	154	proc sort data=&data	102	80	
ERROR: A character operand was found in the %EVAL function or %IF condition where a ...	155	proc sort data=&data	102	80	
ERROR: The %TO value of the %DO loop is invalid.	157	proc sort data=&data	102	80	

Tracking Changes to your SAS® Programs in 7.1

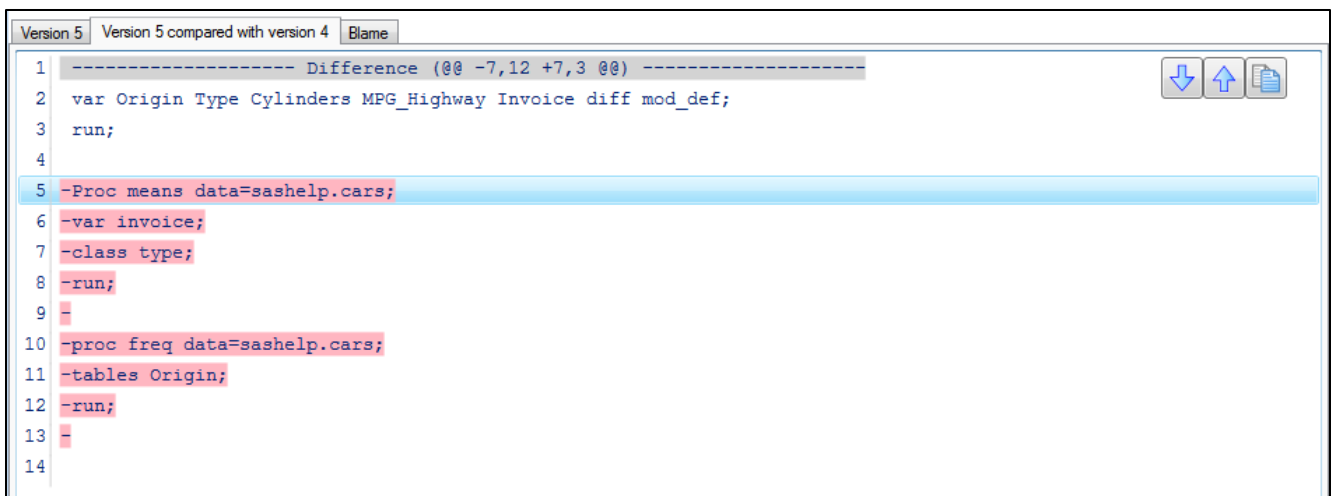
A Brand new feature that started in Enterprise Guide 7.1 is the ability to track changes to a SAS program. You will find three new icons at the top of your program editor.



This functionality allows a user to see what modifications have been made to a program, either by yourself or another user. Starting with the History button as ringed above. When you click this button a screen similar to the one below will appear.



The screen is divided into two main areas. The area at the bottom initially displays the current version of the program. By clicking on the comparison button (ringed above) you can compare the current code with the previous version of the program (see below image). To compare different versions of the program select the version you wish to see in the top area. For example, if you click on Version 3 in the top area, you will then see a comparison between “**Version 3 compared with version 2**”.

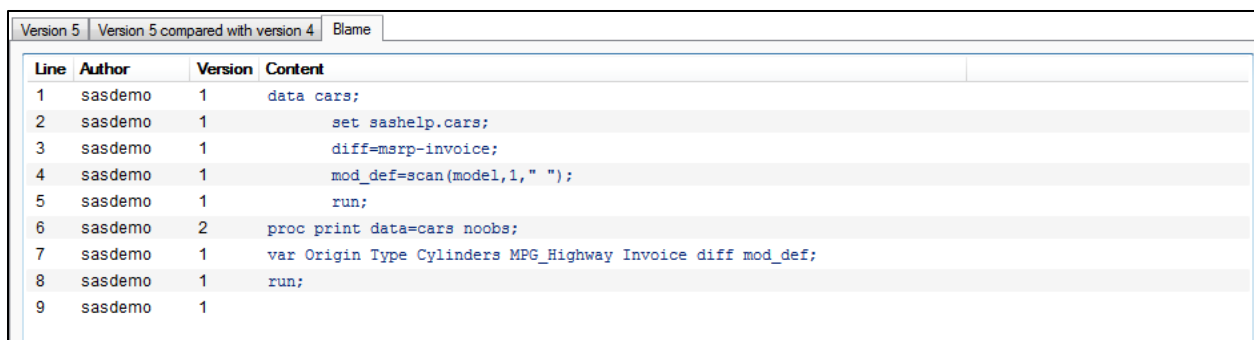


```

1 ----- Difference (@@ -7,12 +7,3 @@) -----
2 var Origin Type Cylinders MPG_Highway Invoice diff mod_def;
3 run;
4
5 -Proc means data=sashelp.cars;
6 -var invoice;
7 -class type;
8 -run;
9 -
10 -proc freq data=sashelp.cars;
11 -tables Origin;
12 -run;
13 -
14

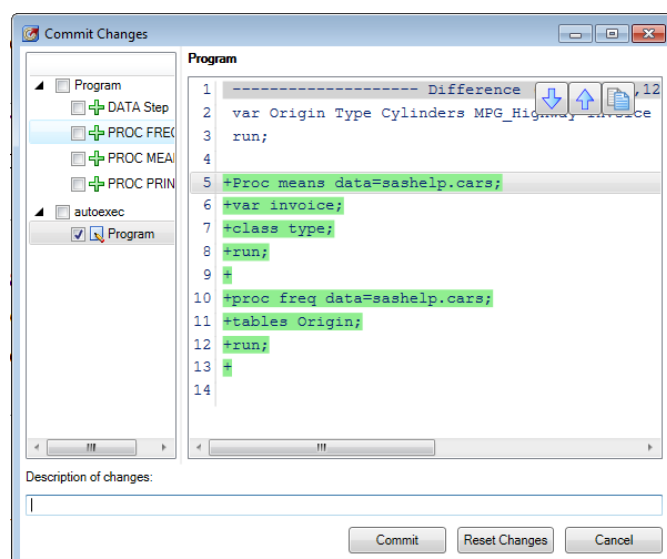
```

Clicking the Blame button will show who made the changes to the program.

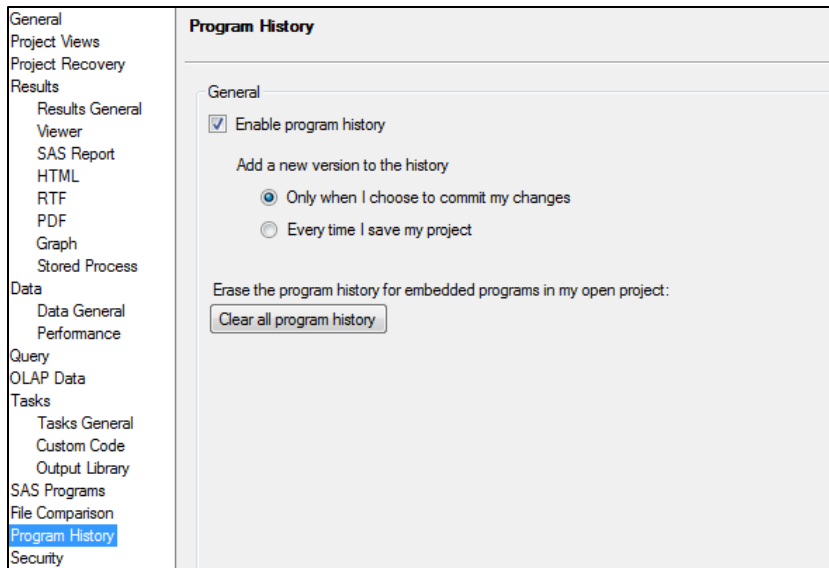


Line	Author	Version	Content
1	sasdemo	1	data cars;
2	sasdemo	1	set sashelp.cars;
3	sasdemo	1	diff=mrp-invoice;
4	sasdemo	1	mod_def=scan(model,1," ");
5	sasdemo	1	run;
6	sasdemo	2	proc print data=cars noobs;
7	sasdemo	1	var Origin Type Cylinders MPG_Highway Invoice diff mod_def;
8	sasdemo	1	run;
9	sasdemo	1	

When you have a version of the program that you wish to save click on the **Commit** at the top of the editor.



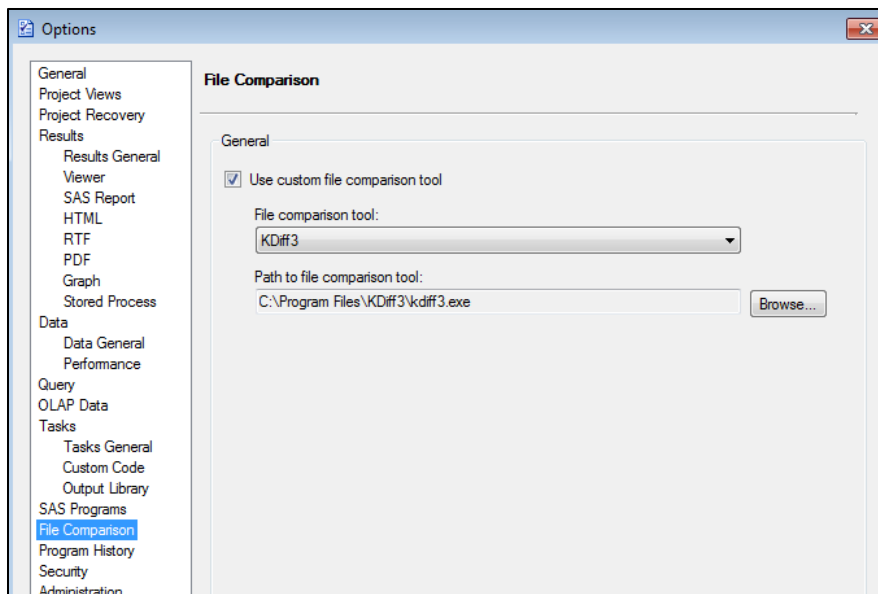
You have the opportunity to provide a version a name and then **Commit** the changes. This will then create a new version of the program that can be restored at a later point if required. There are some options available to control this functionality.



The Changes button is only available if a third party piece of software is installed.

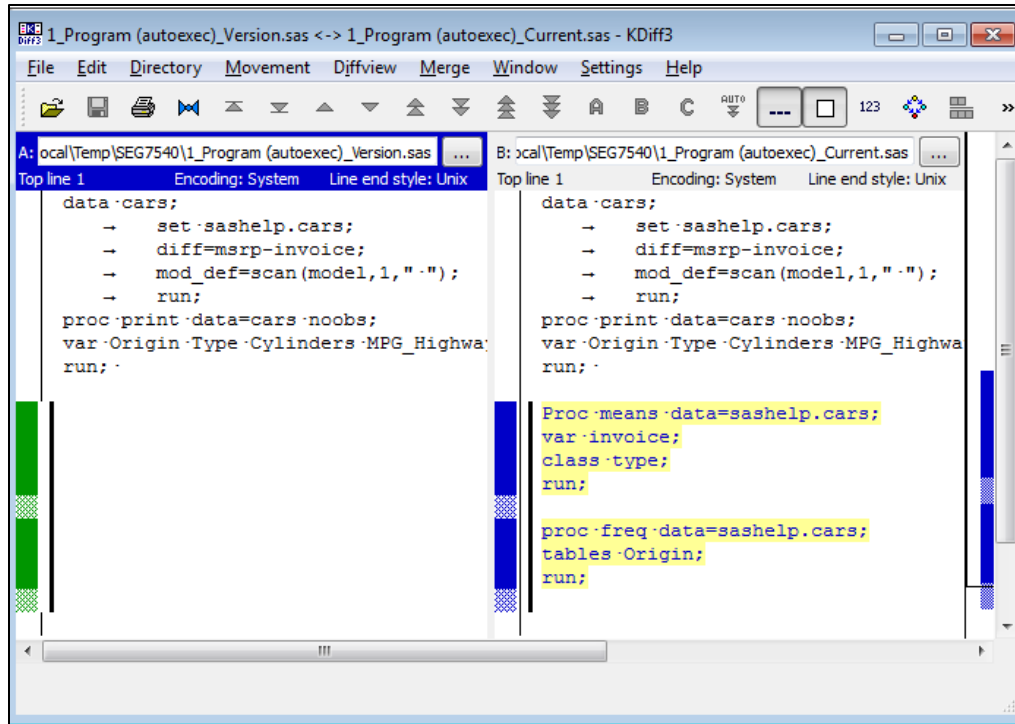


The options screen below shows the application KDiff3 has been chosen but there are other



possibilities.

Once the third party software has been implemented the Changes button will now show what changes have been made compared to the previous version of the program.



KDiff3 is small application that can be downloaded from the link below. More information can also be found on this site.

<http://kdif3.sourceforge.net/>

Key Word Highlights and Searching a Project in SAS® Enterprise Guide® 7.1

Another very useful feature of the SAS Enterprise Guide 7.1 programming interface is the ability to highlight a piece of code, such as the name of a variable, dataset or SAS keyword (DATA, PROC, RUN, etc.) and see it highlighted throughout the SAS program. This is very useful when looking to see where certain variables or datasets are being referenced.

```

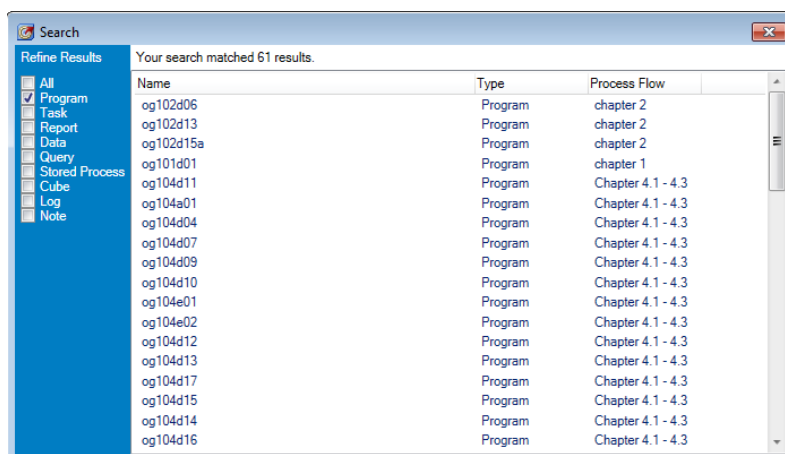
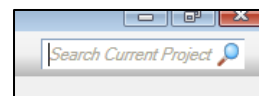
❏ data cars;
    set sashelp.cars;
    diff=msrp-invoice;
    mod_def=scan(model,1," ");
    run;

❏ proc print data=cars noobs;
    var Origin Type Cylinders MPG_Highway Invoice diff mod_def;
    run;

❏ Proc means data=sashelp.cars;
    var invoice;
    class type;
    run;
  
```

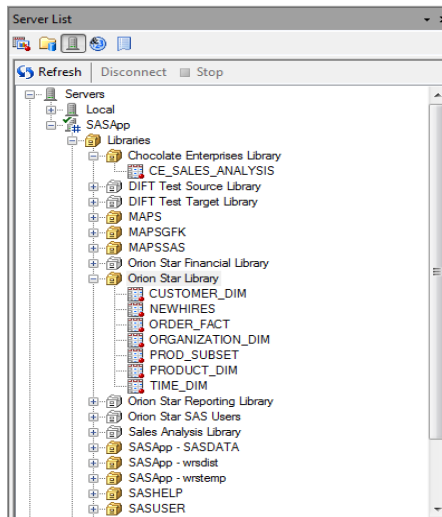
It is also possible to search the entire project for a particular phrase, such as a variable or dataset name. Enter the phrase in the search box found at the top right hand corner of the screen.

The search results below show a list of the programs in the project that make reference to the variable "Profit". Double clicking on a particular program listed in the matched results will then open it.



Accessing Data

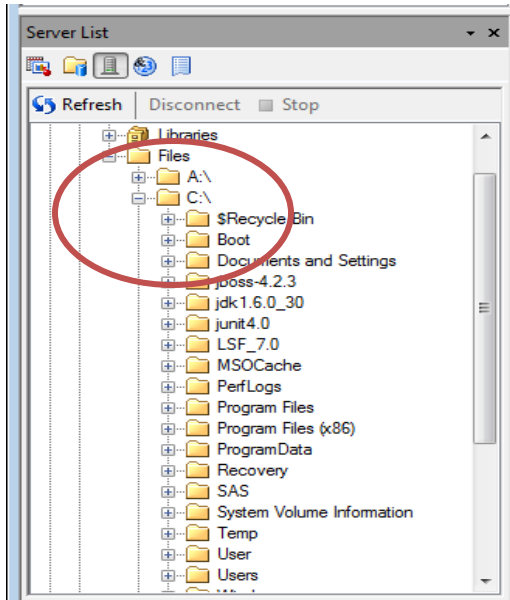
Selecting the server icon on the bottom left of the screen will display a list of the servers and libraries you have access to. You can access the data by expanding out the libraries and then either double click on the required data set or by dragging it onto the process flow.



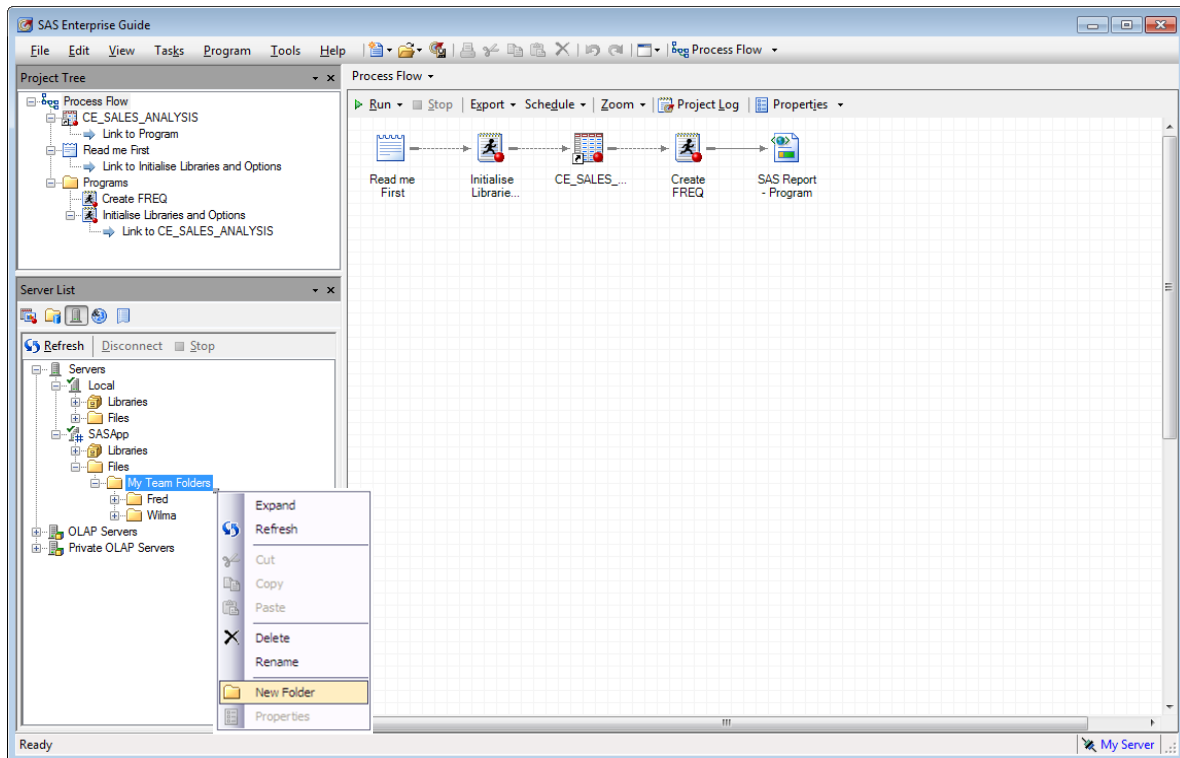
By default the data set will open and show the first 400 rows of data. Additional information can also be found about the data set by mousing over column names and clicking on the two sliders (if they are available). It is also possible to move columns about, hide and freeze them by right clicking on the appropriate column.

	Customer_ID	Customer_Name	Customer_Type	Product_ID	Product_Name	Category	SubCategory	Month	Year	Total_Cases
1	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	36
2	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	36
3	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	36
4	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	36
5	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	36
6	101	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	49
7	101	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	49
8	101	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	49
9	101	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	49
10	101	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	49
11	101	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	49
12	101	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	49
13	101	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	49
14	102	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	22
15	102	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	22
16	102	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	22
17	102	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	22
18	103	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	14
19	103	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	14
20	104	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	11
21	104	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	11
22	104	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	11
23	105	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	1	2005	2
24	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103
25	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103
26	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103
27	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103
28	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103
29	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103
30	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103
31	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103
32	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103
33	100	AIH-Mart	BigBoxRetail	101001	SM Dark Choc Bar	Chocolate	Chocolate Dark	2	2005	103

Other data sources can also be accessed from here by expanding the files folder. Users can then navigate to the required folder to bring in the data. Users can access most types of data in this way including MS Excel Spreadsheets, MS Access Tables and raw data files.



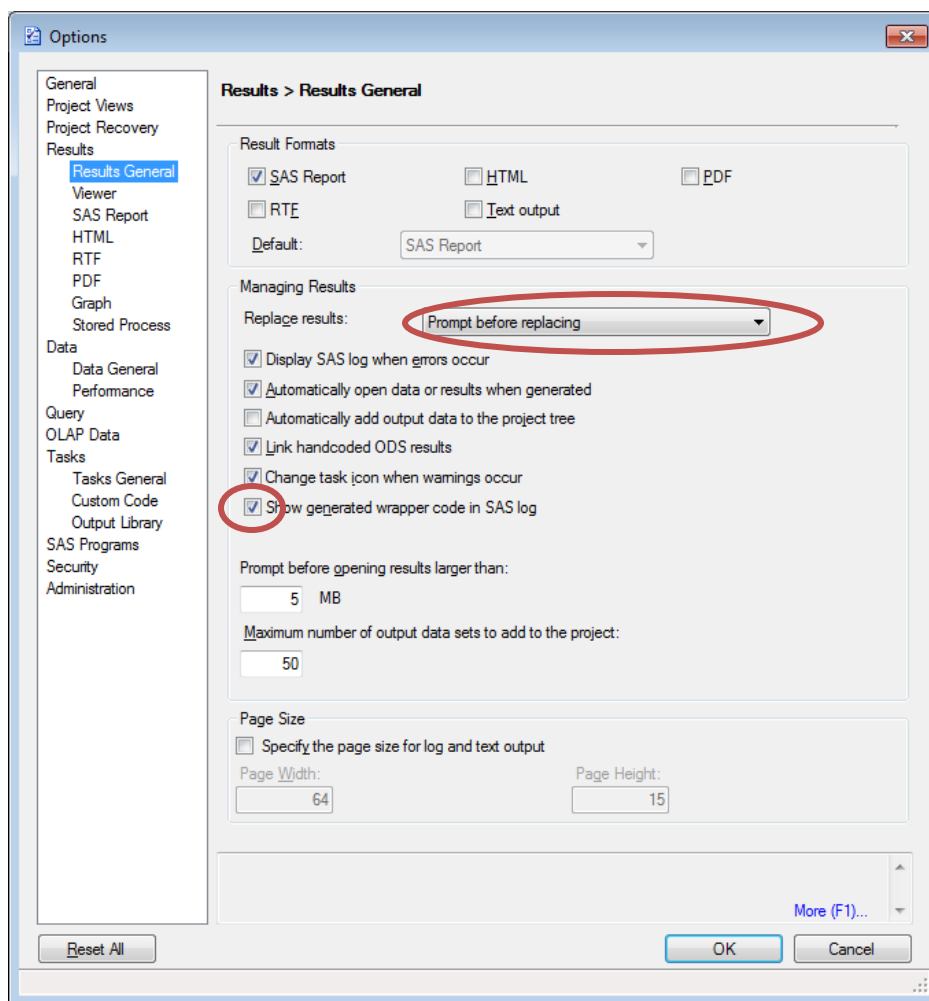
In the file browser, users can also create their own folders to help with the organisation of their data and programs.



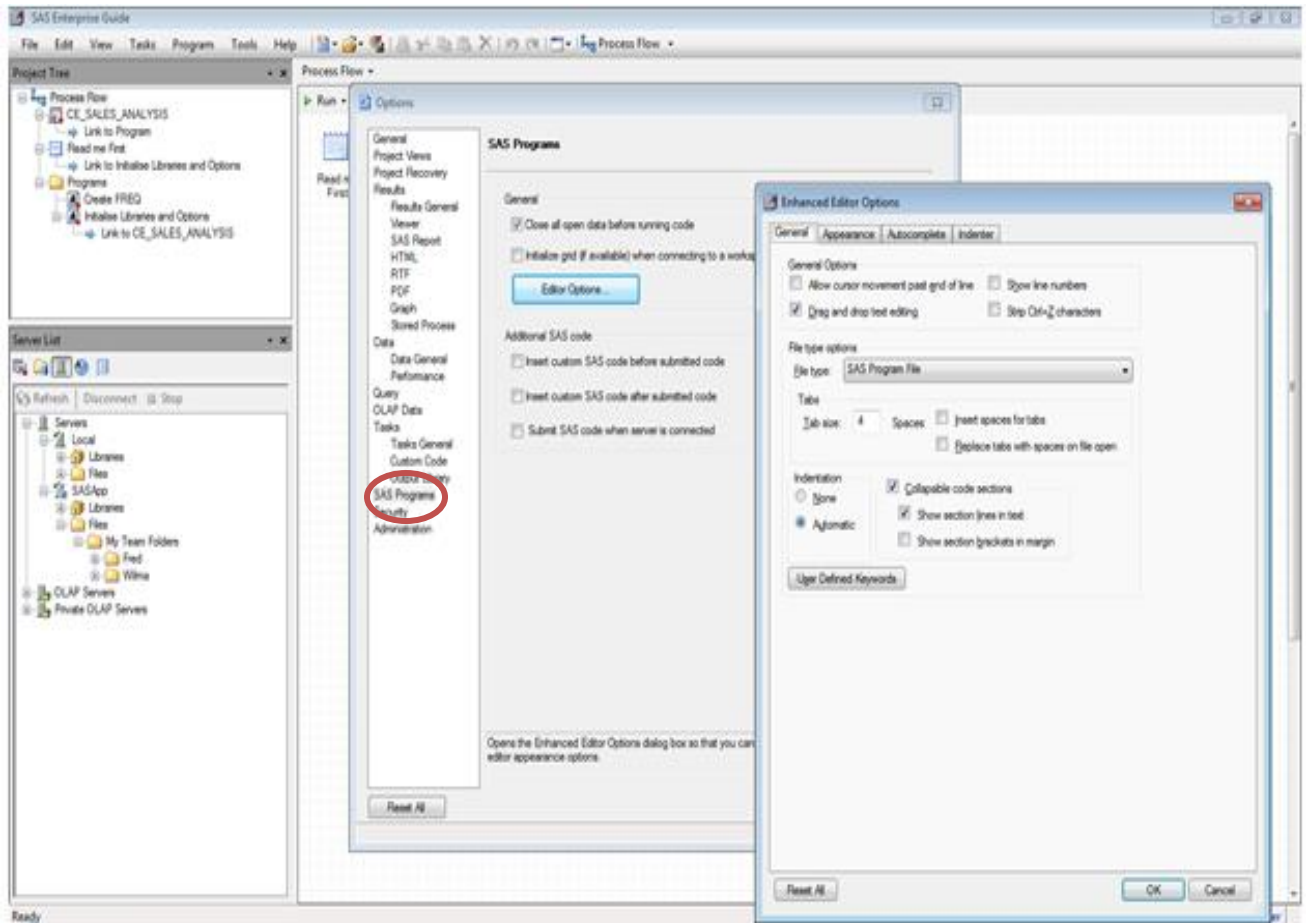
Options for SAS® Programmers

To access the available options select the Tools menu and then Options, this is the last item on the list.

There are several options that can be used to customize the programming experience to your tastes. You can switch off the “Show Generated code in SAS log”. It is also possible to switch off Enterprise Guide prompting you to replace the results each time you execute the program.



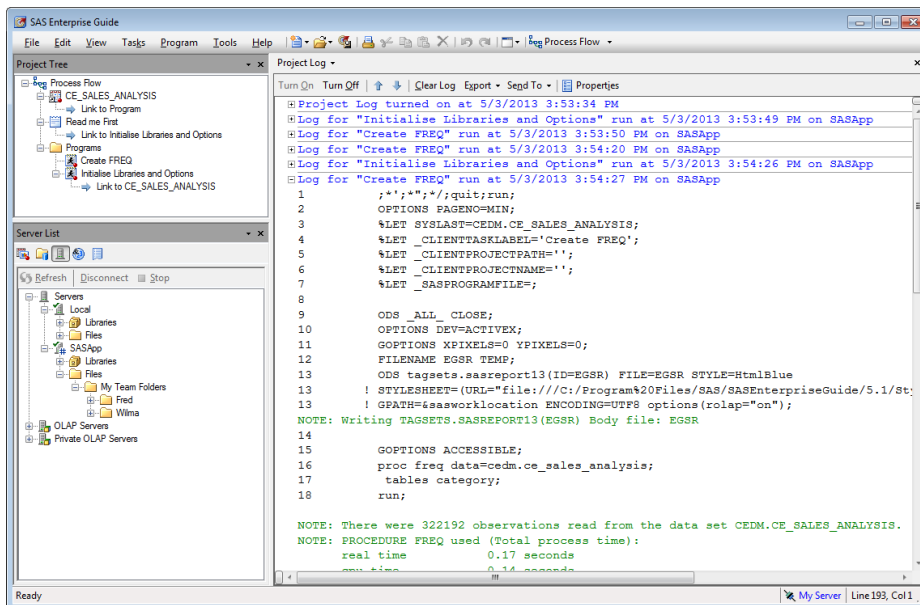
There are many program editor options available, including the ability to change the NOTE colour in the SAS Log, amend the indent and autocomplete settings and add line numbers to the Editor window.



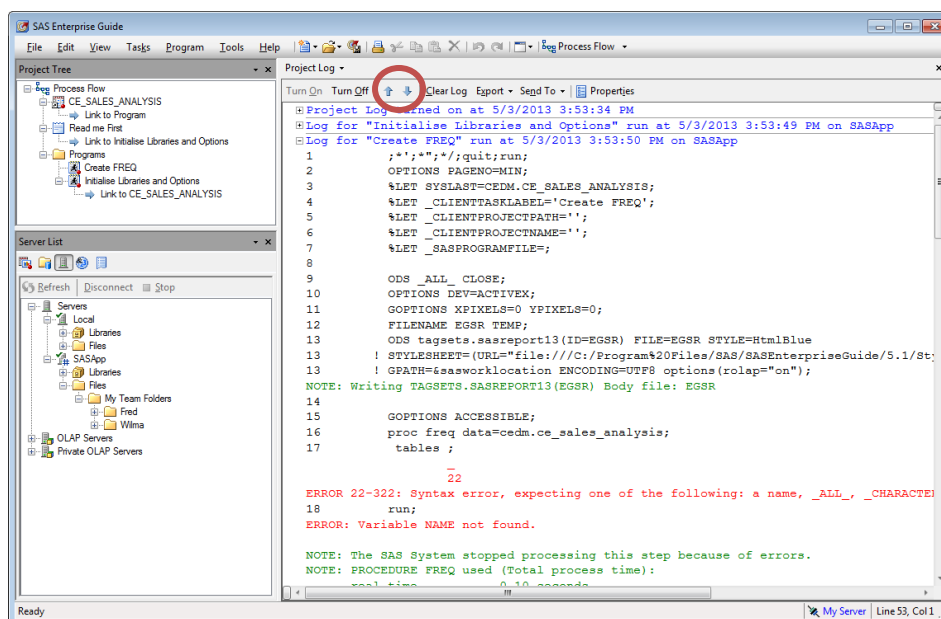
Project Log

Each node on the process flow has its own individual log which is cleared every time the node is run.

There is also an overall log called the “project log” which behaves in a similar way to the old PC SAS log. Click on the project log tab to open it.

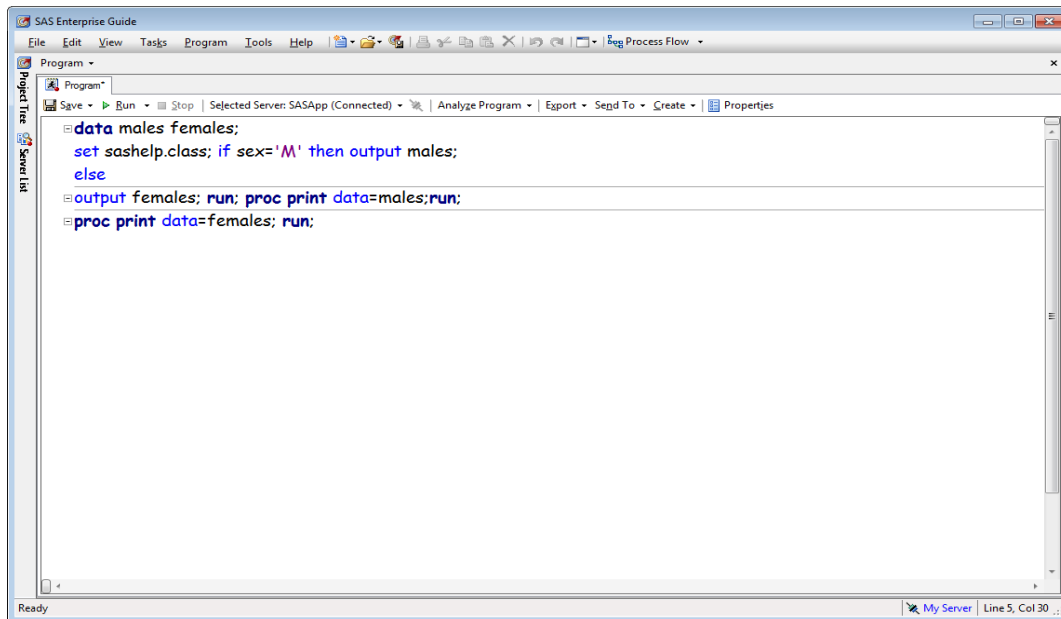


It can be switched on and off, cleared and exported to MS Word. Another useful feature is the arrows or Ctrl+E to move up and down through the errors. It is still possible to use PROC PRINTTO as long as the path is pointing to a location on the server.

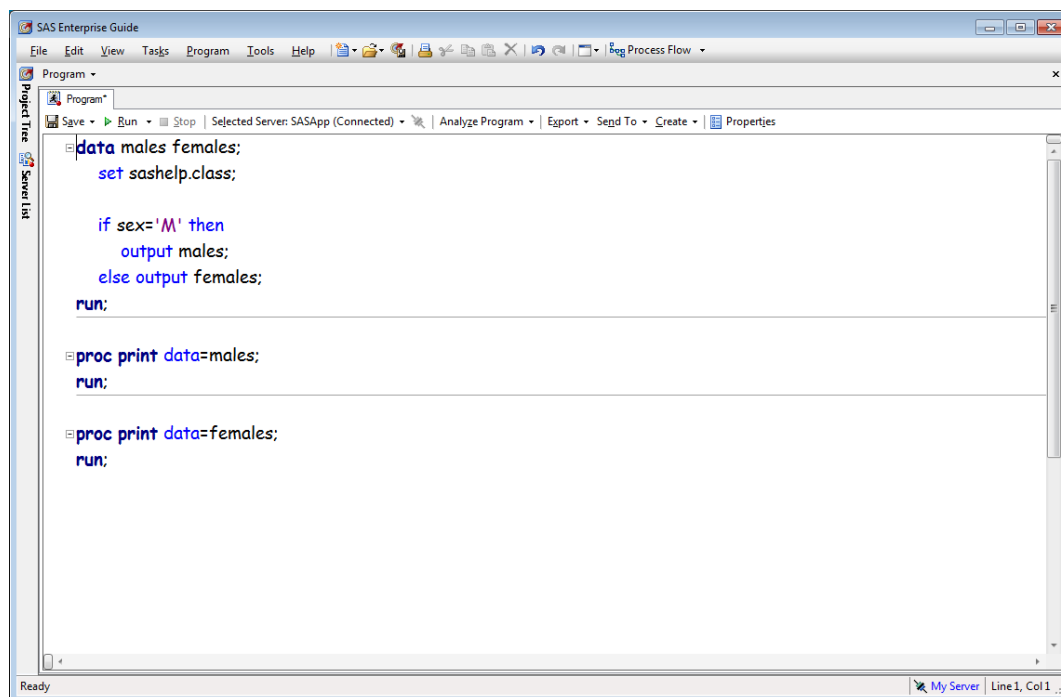


New Program Editor Features

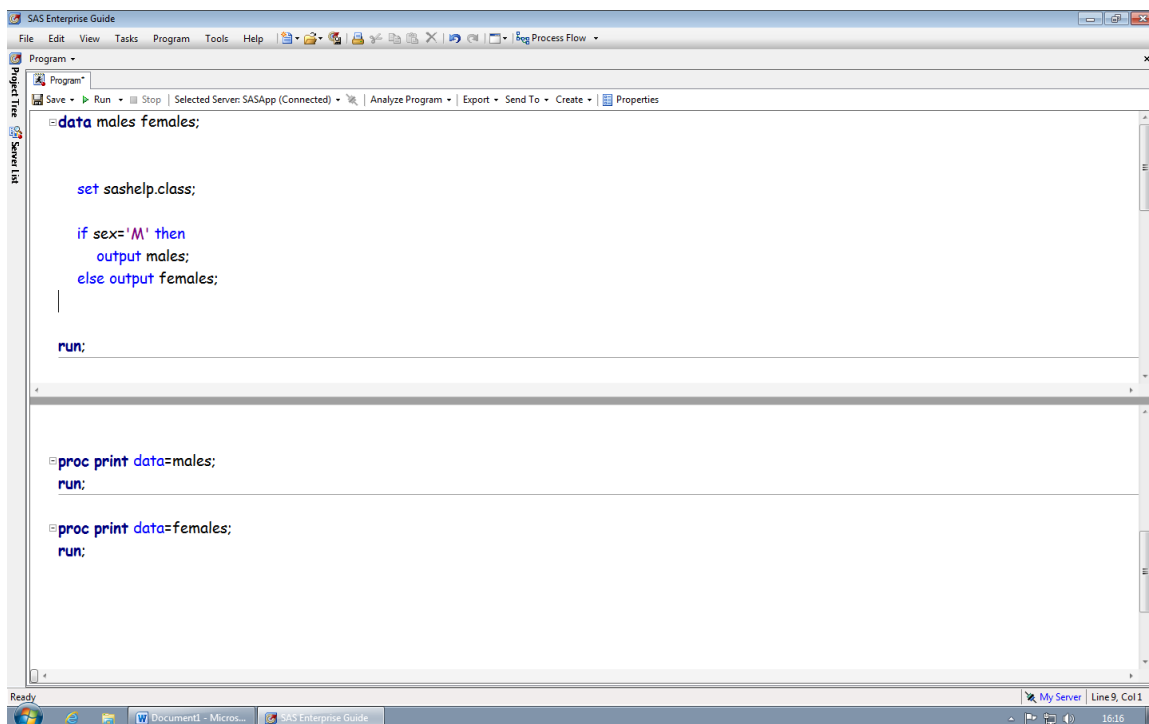
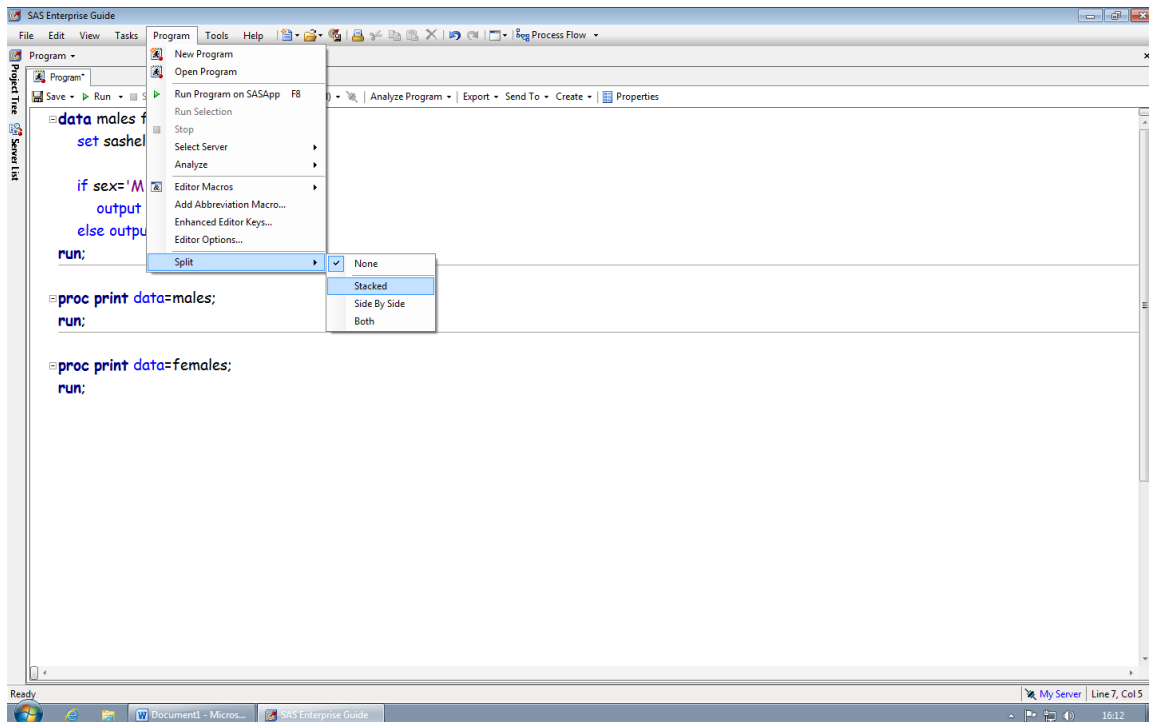
If a program has been written without appropriate returns and spacing it can easily be reformatted to make it easier to read.



Ctrl+I reformats the SAS program, there are several options to control this formatting.

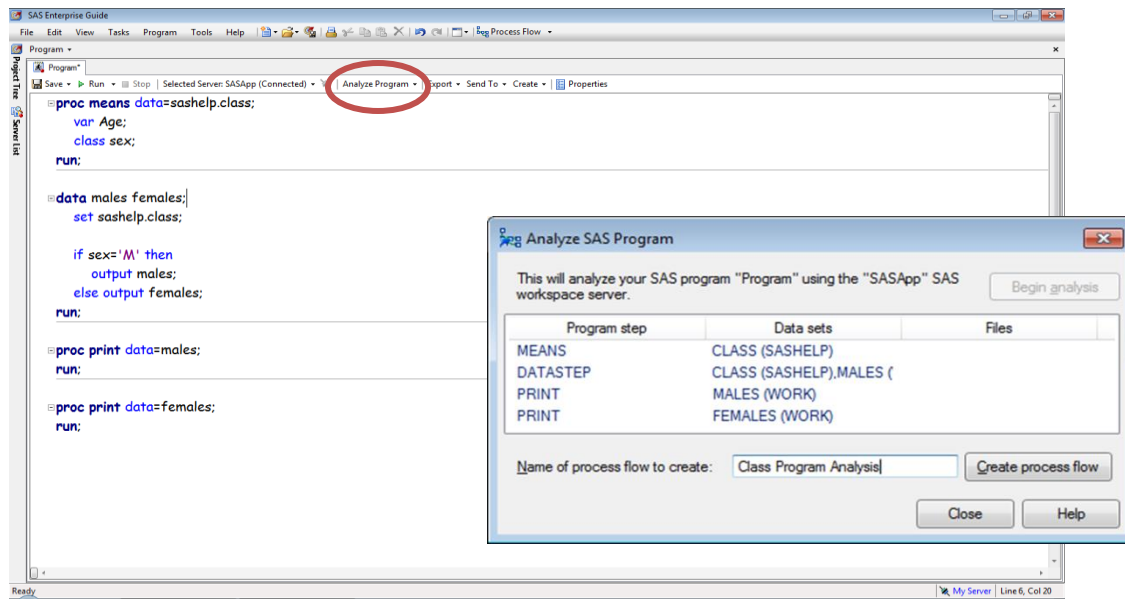


The Program editor can also be split, this can be very useful when viewing very long programs. It is then easy to view the bottom of a program and the top of a program at the same time. It is also possible to copy between the 2 views of the program.

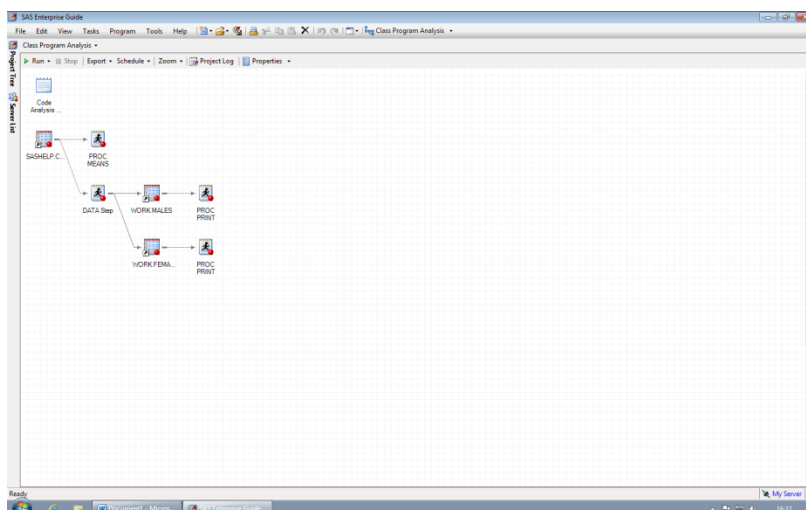


The Program Analyzer

The example program below has 3 steps and uses a number of data sets, therefore it might be advantageous to separate these steps into different nodes and put them into a different Process Flow. With the program open, click on Analyze Program and then “Begin Analysis”.



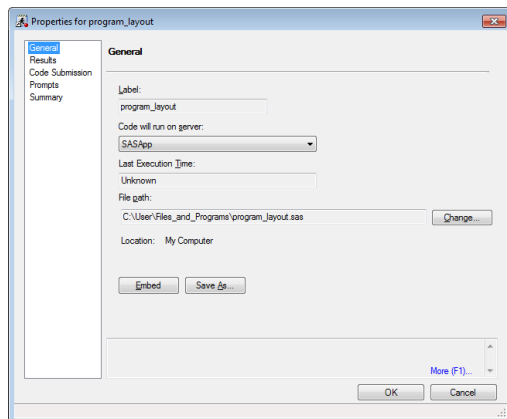
When the “Create Process Flow” button is clicked a new process flow will be generated containing the individual nodes. The process flow will have the same name as the original program.



The Program Analyzer actually runs the program in order to establish how to split the program into its constituent steps. It is therefore advisable to set the OBS= Option to 100 (options OBS=100;) at the top of the program to insure the program runs quickly and doesn't access all the data unnecessarily.

Saving a Program

A program can be saved in two ways. They can be saved as a separate entity to the Enterprise Guide project or embedded as part of the project. When a program is opened from a file location, it will have a short cut icon arrow in the corner, this signifies that this node is just a short cut link to the actual program. This potential benefit means that if the program is changed either by the user or by someone else, that change will be reflected in the project.

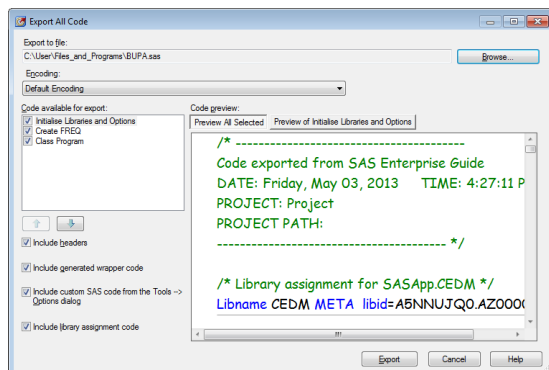


The program can be embedded into the project by right clicking on the icon in the process flow and choosing properties. This means the link with the original program is severed. Any changes made to it in the project will NOT be reflected in the original program.

There are several advantages in doing this, including:-

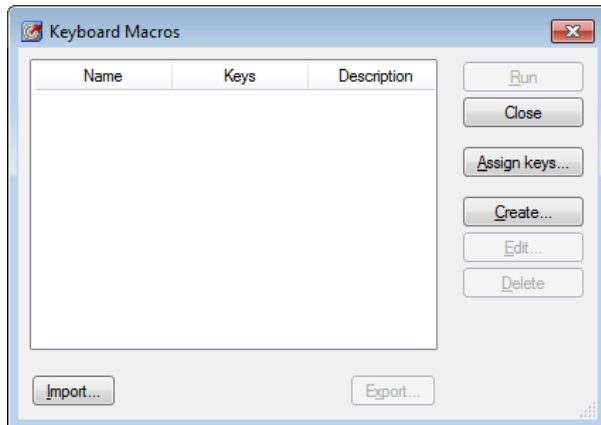
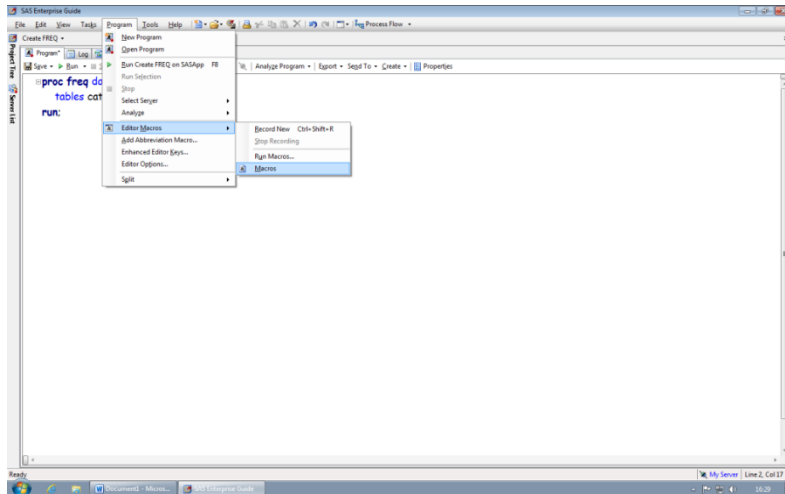
1. The project contains everything required to run it by anyone who needs to.
2. A library of program templates can be created for people to use in Enterprise Guide. They can make the necessary changes and then embed them into the project leaving the original code unchanged.

It is also possible to export all the code created in the process flow or the whole Enterprise Guide project. Click File→Export→Export All code in Process Flow. There are several options available to control what is included.



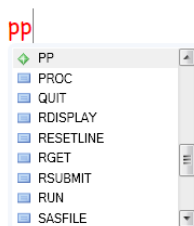
Program Editor Macros

To import keyboard macros that you might use in PC SAS, you will first need to export them from PC SAS creating a KMF file. Whilst viewing an existing program on the process flow choose the program menu option as shown below.



Select **Import** and select the KMF file you want to import. Selecting edit, will show what SAS code the macro inserts.

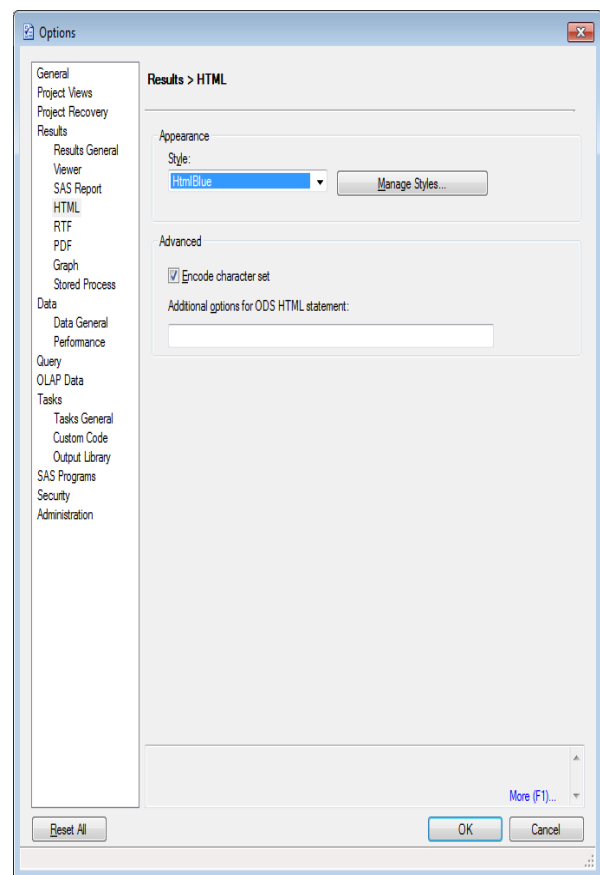
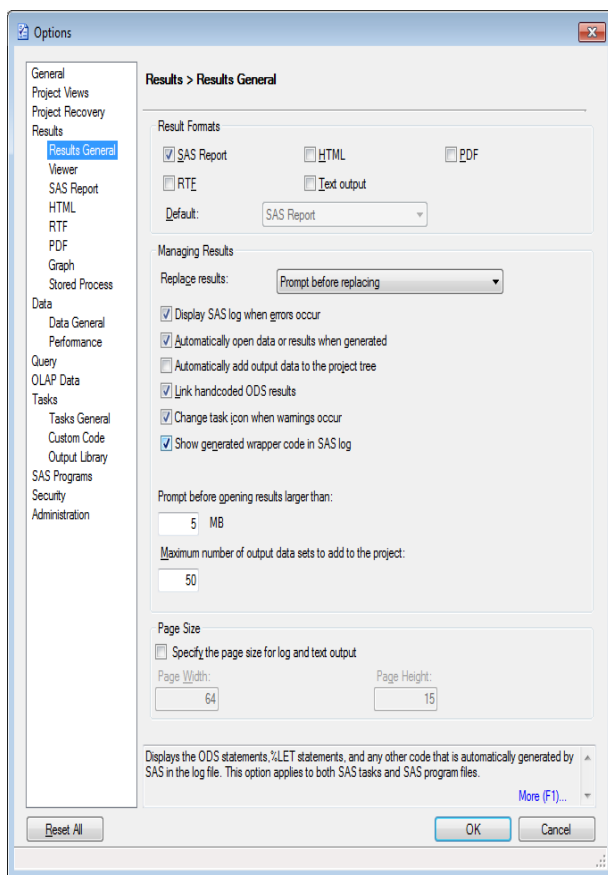
This example shows that there is a macro called PP available.



Report Output Options

It is possible to create different types of report such as RTF, PDF, HTML and SAS Report. Each of these has many different styles available. It is also possible to create your own styles for HTML and SAS Report as these use Cascading Style Sheets to define how they look.

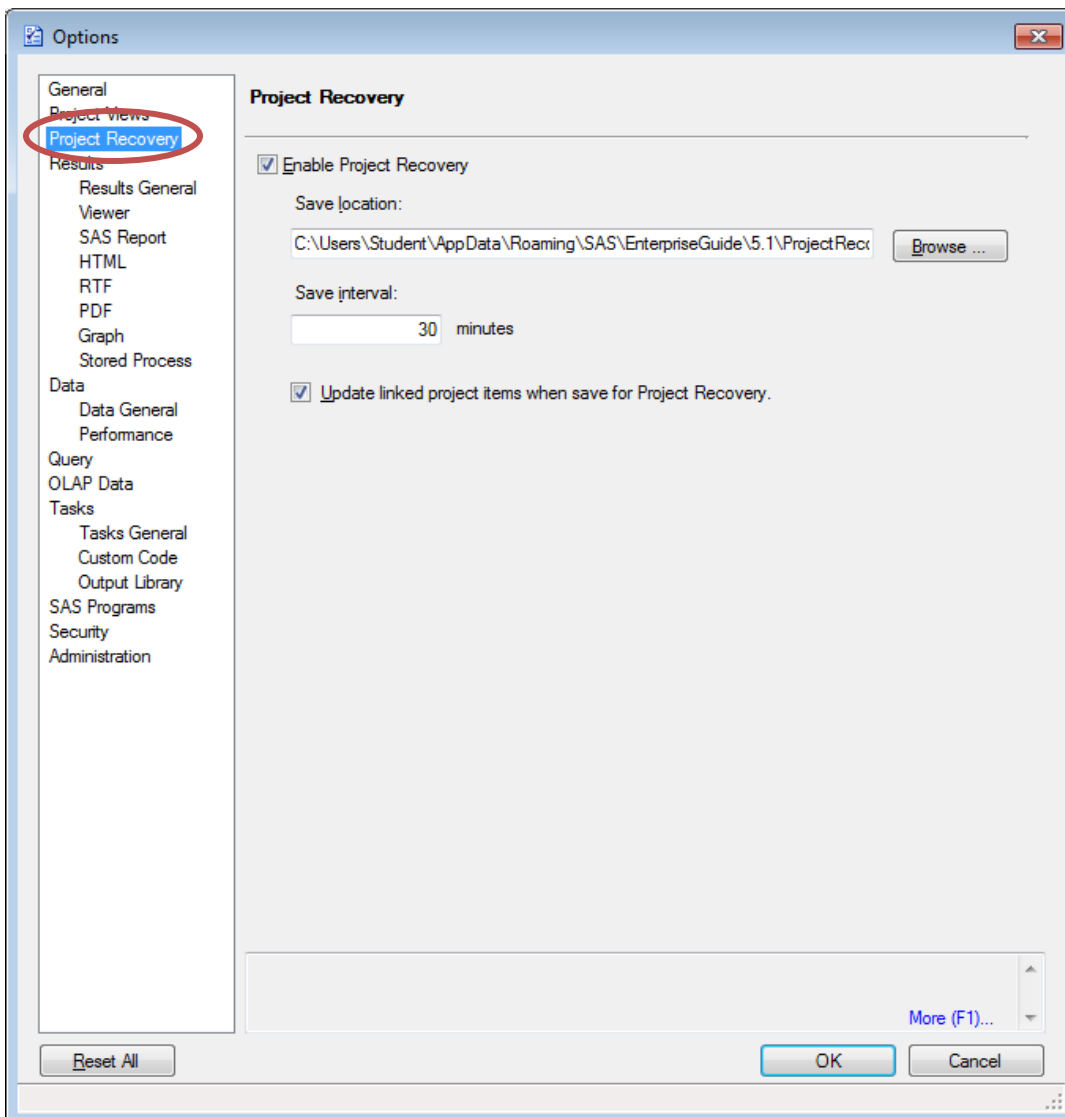
Click Tools→Options→Results General to find the relevant options. Once you have selected the types of output you want you can specify particular options for that output destination including any relevant ODS statements.



Selecting Manage Styles will allow you to create your own and edit existing styles.

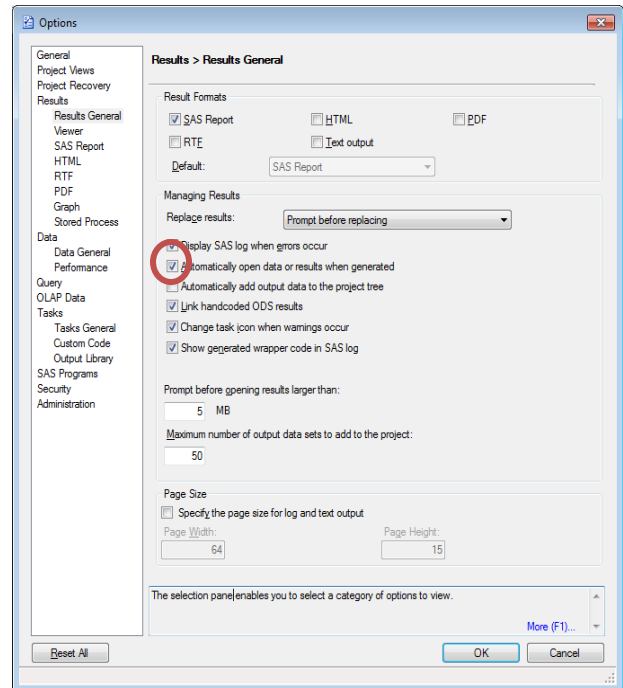
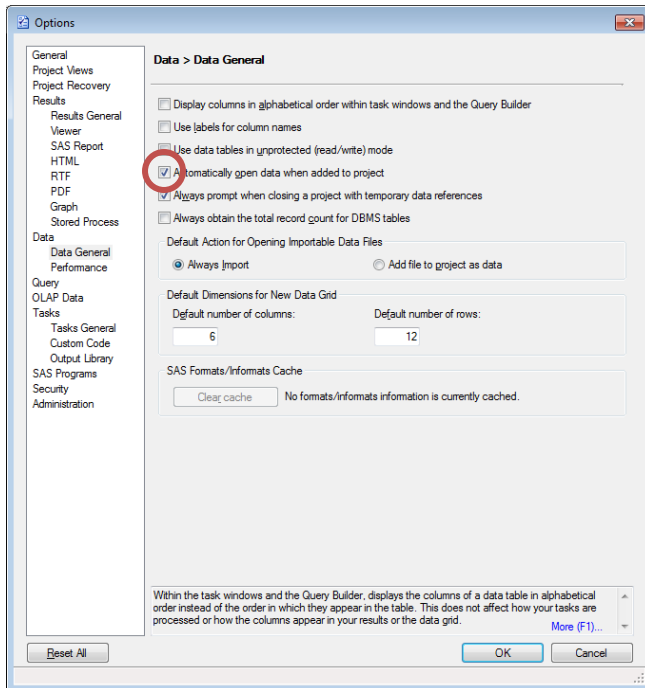
Autosave Option

The autosave option will save the project to a desired location at regular intervals, both these options can be changed. This is useful if there is any loss of service.



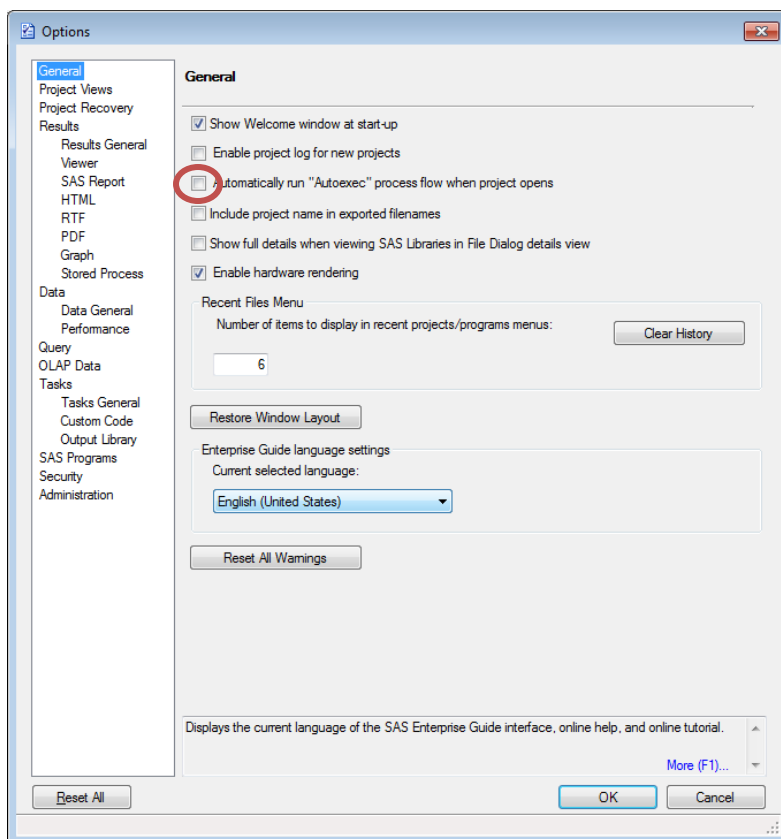
Data Set Opening Options

By default Enterprise Guide will automatically open any data sets that are added to the project and any data sets that are created by a program or task. There are two options to change this behavior and these can be found in the locations shown in the images below.



Autoexec Process Flow Option

It is possible to create a process flow that will run everytime a project opens. Create a process flow called Autoexec and then create program nodes with the desired code within that process flow. To insure the process flow runs, go to Tools→Options and under General settings tick the box “Automatically run Autoexec process flow when project opens”. The process flow can contain tasks or code and will run first every time the project is opened. When the project is opened a dialogue box will ask if the user wants the autoexec process flow to run or not. If the project is opened by a user who does not have the option ticked then the autoexec process flow will not run first.



SAS® Programs with %Include Statements

Enterprise Guide can run programs with %INCLUDE statements. However because the Server is not in direct contact with the LAN or the PC client some changes may need to be made. There are 2 possible approaches for insuring %INCLUDE statements continue to work.

Using %include as is

1. Copy the program stated in the %include statement up to the server if it is not already there.
2. Change the file location stated in the %INCLUDE to reflect the new file location on the server.
3. Make any necessary changes to the “%included” program as listed in this document (libname statements etc.).
4. Run the original program, making sure the “%included” program is found and runs correctly.

Making best use of the Process Flow – recommended

The Enterprise Guide Process Flow makes it easy to see how programs are connected and therefore easier to maintain. Here are the steps needed to use the Process Flow to its full potential and remove the need for %include. The example program has two %INCLUDE statements and is called “Report Daily”, it calls two other programs as stated in the %inc statement.

/*Login to Teradata*/

```
%inc "H:\ SIGNON.sas";    ***CHANGE TO SUIT USER***;
```

/*Useful Macros*/

```
%inc "\\shared\sas_codes\macros.sas";
```

/*Libnames for Inclusion*/

```
rsubmit;
libname FRED '/load/abcd/Folder1';
libname WILMA '/load/abcd/Folder2';
endrsubmit;
```

```
libname FRED slibref=FRED server=&uname;
libname WILMA slibref=WILMA server=&uname;
```

1. Copy the “SIGNON” and “macros” programs onto the server (if not already there)
2. Open the three programs in Enterprise Guide
3. Make any needed changes to the %included programs (signon and macros)
4. Make the required changes to the Report Daily program, you can either delete the %inc statements or comment them out if you prefer.

The Report Daily program should now look like this.

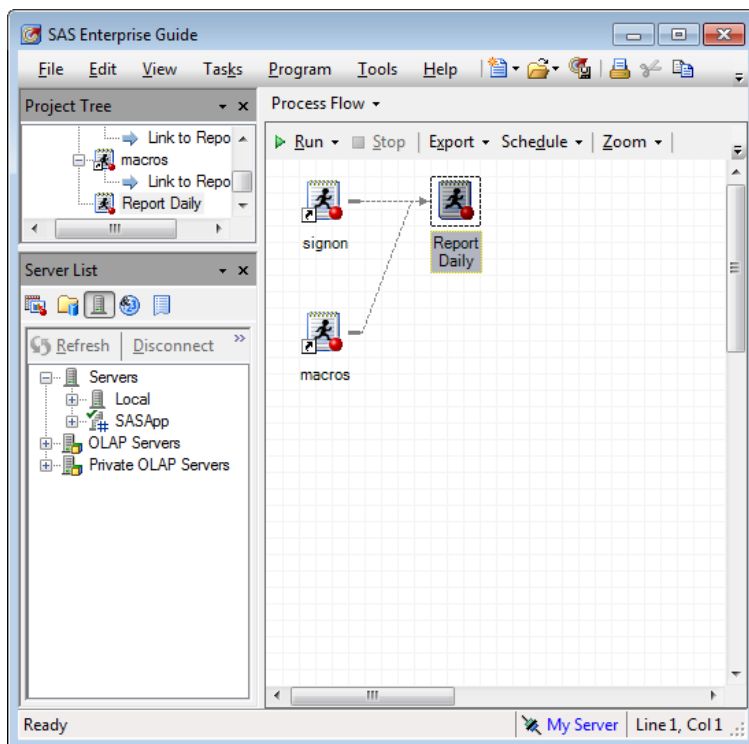
/*Libnames for Inclusion*/

```
libname FRED '/load/abcd/Folder1';
```

libname WILMA '/load/abcd/Folder2';

Notice that much of the code is no longer required.

5. The Programs can be joined together as shown in the image below, information on how to do this can be found in the first section of this document.



Remember, SAS programs can either be embedded as part of the project or remain as separate entities to the project. In this example the **Report Daily** program is embedded within the project so any changes made to that program are particular to that project. The original %included programs are not embedded and the icons represent links (notice the small shortcut arrow in the bottom left corner) to those particular programs. This would mean that any changes made to those programs by other users would be reflected in this project.

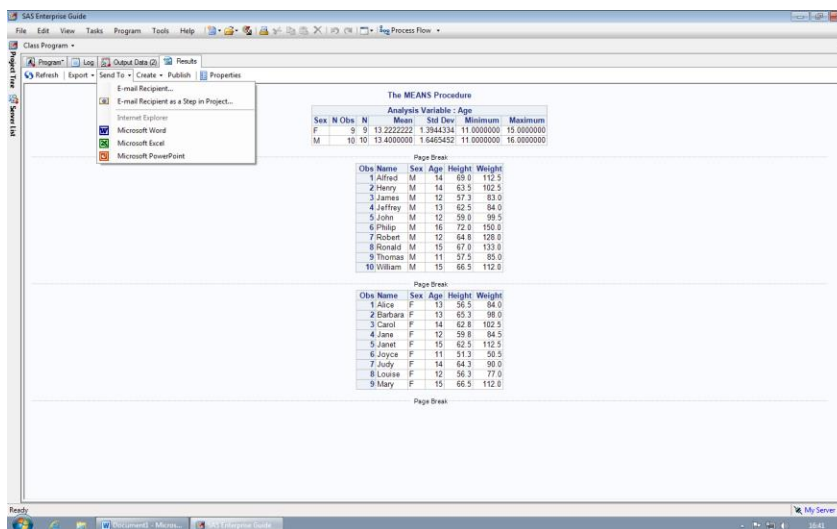
Exporting to Microsoft Excel

All the previous methods of creating MS Excel files will continue to work (Except DDE) but the files will be saved on the Server rather than the PC Client or LAN location. Statements such as ODS will need to have their file paths changed.

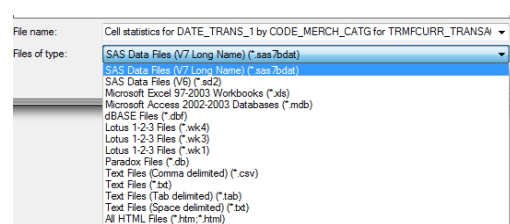
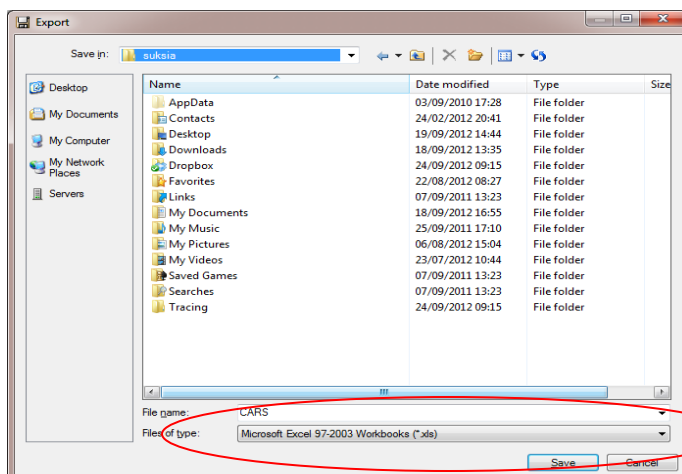
Enterprise Guide offers other possibilities for exporting reports or data sets to MS Excel. These can be saved on the client PC if required.

Also note that if available, the SAS Add-in for Microsoft Office provides even more possibilities.

To export a Data Set to MS Excel, select the Export tab whilst viewing the data set (alternatively right click on the data set in the process flow and choose Export).

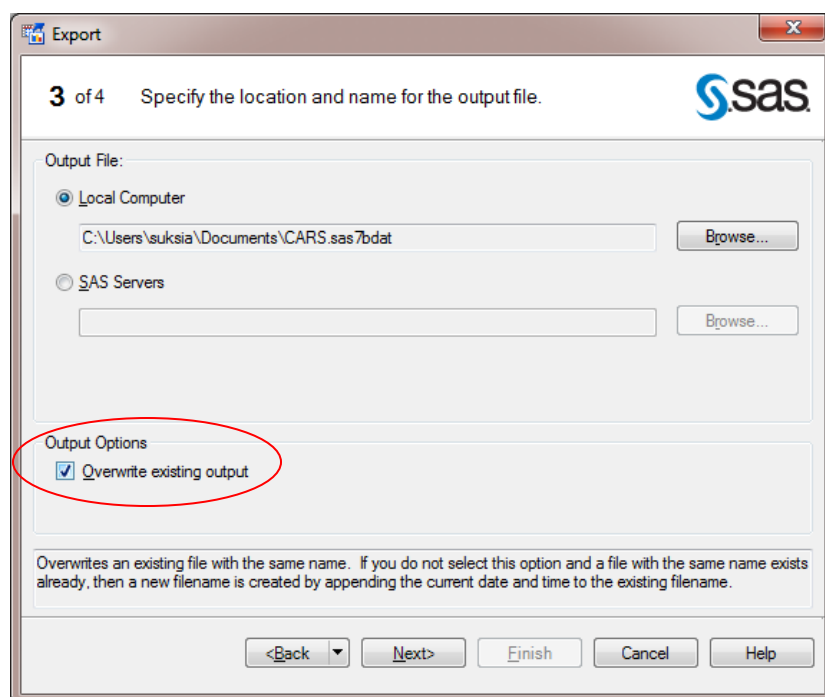


You will see there are two choices available. The first is to export the data set there and then. If you select the first option, it will ask for the location of where you wish to save the file and what type of file you wish to create. Remember to change the file type to MS Excel if that is the type of file you want. There are several options to choose from.



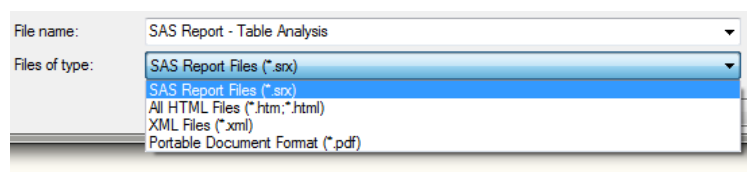
The second choice is to Export as a Step in the Project. This means that every time the process flow executes, it will export the data set. Selecting this second option brings up a 4 step wizard, the steps are as follows;

1. Select what you want to export. The item you were viewing is selected by default
2. The type of file you wish to create, SAS, MS Excel or MS Access for example.
3. Where you want to save the file. There is the option to overwrite the existing file, if you choose NOT to do so (i.e. untick the box) then a new file will be created with a date and time stamp appended to the end of the file name.

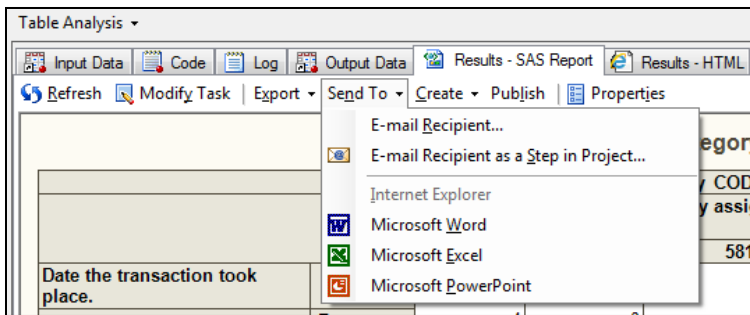


4. The final step shows a brief summary of the options selected and what the task will do.

Both export methods can also be used to export reports to the PC client machine. The report can be saved in one of four formats, if the file is going to be used in MS Excel then we would recommend selecting HTML as the file type. The style of the report will also be used in MS Excel, for clean Black and White output we would suggest using the RTF style.



If the SAS Add-In for Microsoft Office is available it is possible to send a report (or Data Set) straight to MS Excel, MS Word or MS PowerPoint. Whilst viewing the report select “Send To” and then the application of your choice. The alternative approach would be to right click on the report in the process flow and choose “Send To”.



There are also a variety of possibilities available when using the SAS Add-In for Microsoft Office.

Where to Find More Information

You will find a wealth of useful information on the web at:

<http://support.sas.com/>

Specifically, documentation can be found at:

<http://support.sas.com/documentation>

(most documentation is available in downloadable PDF format free of charge)

For information on what's new in SAS 9.3 check here:

<http://support.sas.com/documentation/cdl/en/whatsnew/65742/PDF/default/whatsnew.pdf>

For the products dealt with in this workshop here are some useful links.

SAS Enterprise Guide:

<http://blogs.sas.com/content/sasdummy/tag/sas-enterprise-guide/>

<http://support.sas.com/documentation/onlinedoc/guide/index.html>

Join us in the on-line network of nearly 9,000 SAS Professionals at:

www.sasprofessionals.net



Creating relationships... and keeping SAS users In the Know

Tick List for Successfully Migrating Programs

- | | |
|--|--------------------------|
| 1. Remove RSUBMIT and ENDRSUBMIT statements | <input type="checkbox"/> |
| 2. Remove PROC UPLOAD and PROC DOWNLOAD steps | <input type="checkbox"/> |
| 3. Update LIBNAME statements to reflect the location of the datasets on the server (remember pathnames are case sensitive) | <input type="checkbox"/> |
| 4. Remove all LIBNAME SLIB references | <input type="checkbox"/> |
| 5. Update FILENAME statements to reflect the location of the files on the server | <input type="checkbox"/> |
| 6. Change %INCLUDE file location references to Server references | <input type="checkbox"/> |
| 7. Update ODS file locations to reflect the required file locations on the server | <input type="checkbox"/> |

