

SAS® GLOBAL FORUM 2016

IMAGINE. CREATE. INNOVATE.

My Favorite SAS® Enterprise Guide® Tricks

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Session Topics

- Using SAS Enterprise Guide to
 - **Explore** – Understand your data and its issues and anomalies
 - **Visualize** – relationships, trends, surprises
 - **Consolidate** – piece together the story
 - **Present** – build insight and analytics to support business decision-making



Why should I use SAS Enterprise Guide?

- There are many SAS interfaces to choose from, including the newest - SAS Studio.
- Enterprise Guide has LOTS of tools to help you turn all that data into useful information. We will explore how to
 - use tools for data exploration, analytics, and reporting
 - easily create a variety of output formats to display results
 - build easily repeatable processes.

Included: features in Enterprise Guide 6.1 and 7.1.



Exploring and Understanding Your Data – SAS Enterprise Guide Makes it Easy!

How can you easily get a feel for your data?

- The **Data Explorer** enables you to see if your data actually contains what you are expecting
- Create charts and graphs to explore the data and quickly highlight possible issues and outliers.



Data Explorer – replaces lots of code!

Why do I LOVE the Data Explorer?

If you program in SAS, this avoids typing / running lots of code

- » proc contents
- » proc means
- » proc univariate
- » proc freq
- » proc gchart
- » proc gplot
- » proc **DOWNLOAD**



Using the Data Explorer

You can use either the **Server View** or the **Main Menu** to access the Data Explorer.

- In the **Server View**, expand the Servers and Libraries by selecting the **plus sign**
- **Right Click** on a dataset and select **Explorer**



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Data Explorer - TIPS

- If you want to explore WORK (temporary) datasets
 - <http://blogs.sas.com/content/sasdummys/2014/02/17/favorite-eg-tricks-fecht/>
- If you are working with LARGE data
 - <http://blogs.sas.com/content/sasdummys/2014/07/09/performance-tips-sas-eg-datagrid/>



Dig Deeper – find the issues and anomalies

How can you focus in on areas of concern?

- Use filters to explore subsets of data
 - Data View List (right side of Data Explorer)
 - Filter Tool in column of interest
 - Reminder: Apply Updates 
- Rerun Quick Stats with filter on – to investigate patterns within subsets of data

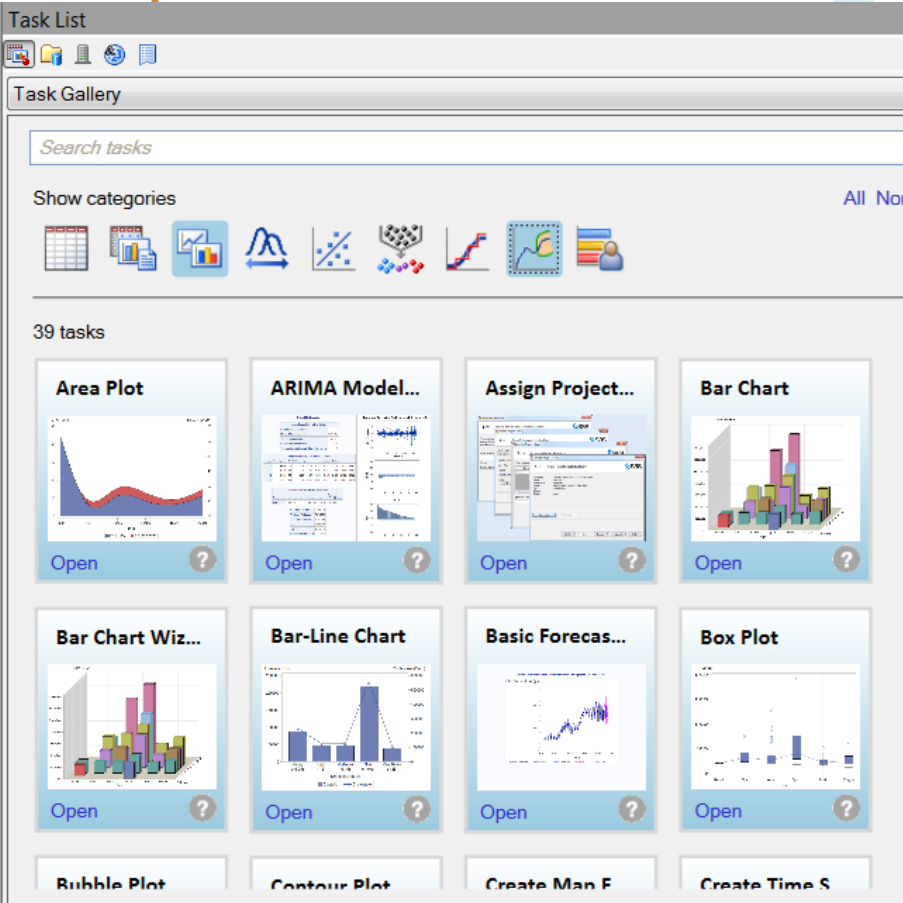


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Use Tasks to guide your exploration

In **6.1**, the Task Gallery provides easy access to the tools you need to explore, summarize, visualize, analyze, and report.



The screenshot displays a software interface titled "Task List". At the top, there is a "Task Gallery" section with a search bar labeled "Search tasks" and a "Show categories" button. Below this, a row of icons represents various task categories. The main area shows "39 tasks" and a grid of task cards. Each card features a title, a small preview image, and an "Open" button with a question mark icon. The visible task cards are:

- Area Plot
- ARIMA Model...
- Assign Project...
- Bar Chart
- Bar Chart Wiz...
- Bar-Line Chart
- Basic Forecas...
- Box Plot
- Bubble Plot
- Contour Plot
- Create Man E
- Create Time S

Use Tasks to guide your exploration

For 7.1, a new user interface provides easier access to the tools you need to explore, summarize, visualize, analyze, and report.

The new Task window even let's you save your favorite tasks for quick access.



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Visualizing your Data

Use Graphic and Analytics tasks to help you understand the underlying relationships in your data.

Example: explore relationships between variables in the sashelp.heart data.

Tasks → Graphs → Scatter Plot Matrix



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Tips when using Tasks

Tasks give you easy access to the Power of SAS

Notice

- **Help** – to explain the selections and options
- **Preview Code** – in case you want to learn the code and impact of your selections
- **Export** – to enable you to share or publish your results
- **Modify Task** – to make changes after you run the task.



Are you a PROGRAMMER????

A Pause . . .

- If you are a programmer, and you aren't using the features of SAS Enterprise Guide, you will love the productivity tools



HELP in the Editor

Integrated SAS documentation:

If you mouse over a SAS keyword, a pop up window shows you the SAS documentation describing the keyword and the syntax.

```
/* *****  
/* Create PDF Report  
/* *****  
  
ods listing close;  
ods  
proc  
colu  
;  
;
```

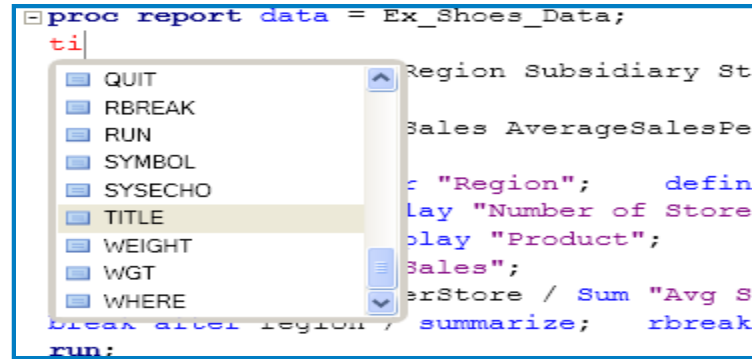
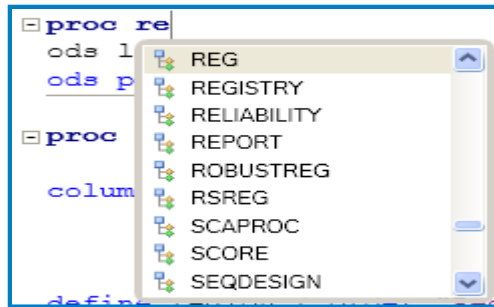
Keyword: ODS LISTING
Context: [ODS] ODS LISTING statement
Opens, manages, or closes the LISTING destination.
Syntax:
(1) ODS LISTING <action>;
(2) ODS LISTING <DATAPANEL=number | DATA | PAGE > <FILE=file-specification>;
("Sales" (Sales AverageSalesPerStore))



HELP in the Editor

Syntax Suggestion / Autocomplete when coding:

When you enter the first 2 letters of a SAS keyword (i.e.. PROC statement or option), a list will pop up of possible keywords you can select from. This includes available PROC options.



HELP in the Editor

Syntax suggestions for Macro Variables and Macro:


- for User defined Macro variables
- for User defined Macros
- only those that are defined within the active SAS program
 - Does not include macros and macro variables automatically created through an autoexec



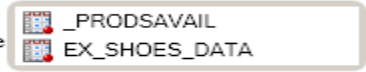
HELP in the Editor

Autocomplete for SAS libraries, Datasets and Dataset column names:

```
proc report data=  
  column ("Location  
          Product  
          "Sales"  
          ;  
  define region / o  
  define Stores / d  
  define Product /  
  define Sales / Su  
  define AverageSalesPerStore / Sum Avg
```



```
proc report data=work.  
  column ("Location" (Re  
          Product  
          ("Sales" (Sales AverageSalesPerStore))  
          ;  
  define region / order "Region";   define Subsidiar  
  define Stores / display "Number of Stores";  
  define Product / display "Product";  
  define Sales / Sum "Sales";  
  define AverageSalesPerStore / Sum "Avg Sales per St  
  break after region / summarize;   rbreak after / su  
run;
```



HELP in the Editor

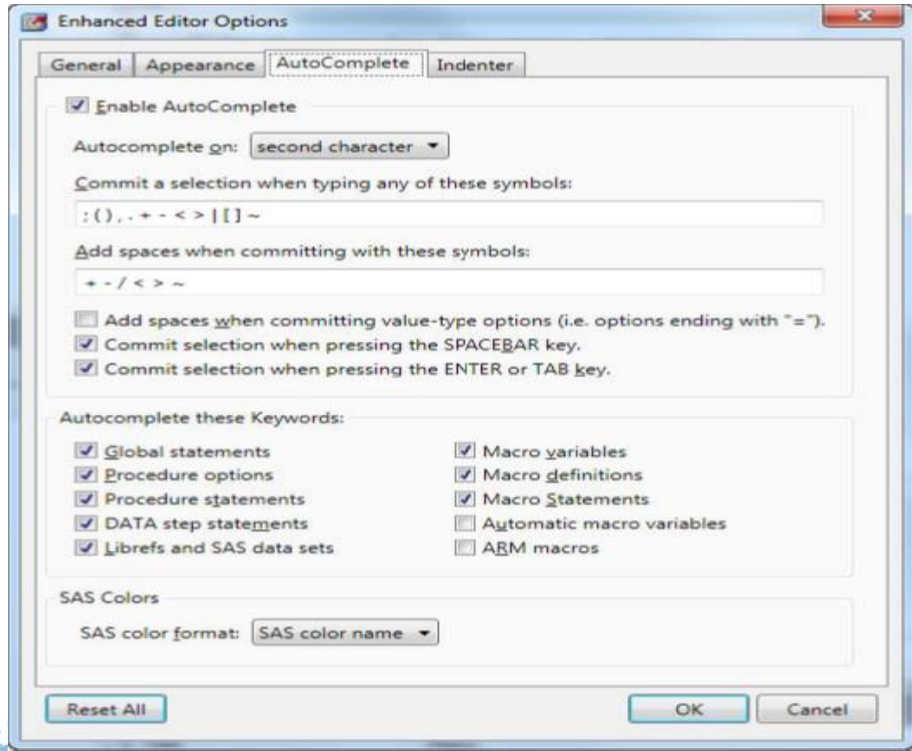
Parenthesis Matching:

- Great for debugging macros and SQL code
- Also works for brackets ([]) and braces ({ })

```
proc report data=work.  
column {"Location" (Region Subsidiary Stores)}  
       Product  
       {"Sales"      (Sales AverageSalesPerStore)}  
       ;
```



That's great but... HOW DO I TURN IT OFF?



Hint:

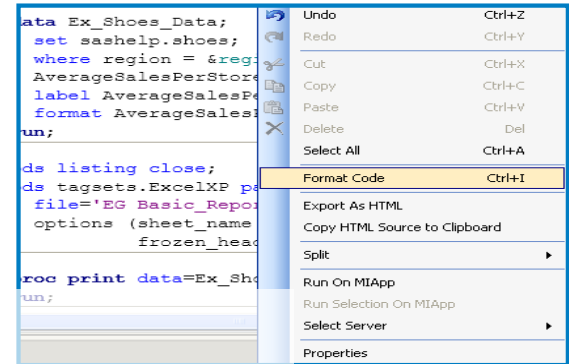
To turn one, many or ALL autocomplete features off, update your Enhanced Editor Options
Tools – Options – SAS Program – Editor Options



Cleaning up after your co-workers

If you have *inherited poorly formatted code*...

- Right click anywhere in the Program
- Select **Format Code**



Helpful Hint:

Specify formatting preferences, or override the options

Tools → **Options** → **SAS Programs** → **Editor Options** → **Indenter**

set the spacing on indents and select which statements signal a new line.



Consolidating your Story

The Process Flow window provides a clear picture of the steps and results in your session. And, the flow can be saved as a project so that you can easily reuse these steps.

To see the flow,

View → Process Flow

To save a project (which can contain multiple process flows)

File → Save Project As



Adding Flexibility for the future

- You can add flexibility to your project using **project prompts**.
 - Quite simply, these can act like macro variables do in your SAS programs so that you can easily adjust data sources, filters etc.
- To tailor your environment when working in SAS Enterprise Guide, you can utilize an **autoexec** .



Presenting the Results

- How do you get the results into the format you need?
- SAS Enterprise Guide easily enables a variety of output formats
 - You can control the formats that are automatically provided
 - » To select which output format(s) you want
Tools → Options → Results General
 - » To control features of the output formats
Tools → Options → Graph (and the other formats)



I already ran my report

– can I change the format

- While you are viewing your results, you can export or send the results in a different format
 - Select **Export** – export to HTML, XML, PDF
 - Select **Send To** – send to WORD, EXCEL, PPT



Combine multiple reports in one wrapper

- Once you create your reports or graphics, you can combine them into a single location
 - **File → New → Report**
 - Select the reports of interest
 - Assemble them as desired
 - Add logos or other images
 - Add commentary.



Are you interested in learning more?

Take advantage of the many resources

- Getting Started Tutorial – available via **Help** menu
- Sasdummy blog
- SAS Training





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