

SAS® GLOBAL FORUM 2017

April 2 – 5 | Orlando, FL

Charting Your Path to Using the “New” SAS® ODS and SG Graphics Successfully

- Without Programming, Yet Still Having Code Generated



USERS PROGRAM



Paper 1369 Charting Your Path to Using the “New” SAS® ODS and SG Graphics Successfully

Roger D. Muller

Data-To-Events, Inc.; The Trinomium Group

ABSTRACT and CONCLUSIONS

- SAS® Output Delivery System (ODS) Graphics started appearing in SAS® 9.2. Collectively these new tools were referred to as “ODS Graphics,” “SG Graphics” and “Statistical Graphics”.
- When first starting to use these tools, the traditional SAS/GRAPH® software user might come upon some very significant challenges in learning the new way to do things.
- This paper does not deal with typing code for the procedures SGPLOT, SGPANEL, and SGSCATTER. Typing the code while learning to use these tools is indeed a method of learning the new technologies; but is VERY time-consuming and tedious. Let SAS write the code for you!
- **“ODS Graphics Designer”**. This paper does show how to alternatively use a combination of the TEMPLATE and SGRENDER procedures by entering values in the “ODS Graphics Designer” . This serves as a teaching tool by not only generating graphs, but also generates and code. This tool makes use of the TEMPLATE and SGRENDER Procedures, generating Graphics Template Language (GTL) code. Users get extremely productive fast.
- **Initial Environments**. ODS Graphics Designer is available in both the Display Manager (DM) and Enterprise Guide (EG) interfaces to interactive SAS. This is logically not available in batch environments. Code generated can be transferred to batch environments for production generation of graphics.
- **SAS Studio**. A much more recent development of a learning tool for graphic has been in the release of the SAS Studio interactive environment where SAS is executed through an internet browser such as Internet Explorer. Note that the SAS University edition is in this family of products. Code is generated in a somewhat similar manner working strictly with Proc SGPlot. Note that a version using SGPLOT is not available in DM or EG products at the present time.
- There are also provisions in SAS Studio to optionally install ODS Graphics Designer in the individual machine installation.
- The emphasis in this paper is the simplification of the learning process. Users will be able to take the generated code and run it immediately on their personal machines and use the generated code as a learning mechanism and as code that can be used in “.sas” programming files.
- The key to success with using these technologies is to get productive fast and not following traditional programming learning practices. *Let SAS generate the code for you and then pick it up and modify it!*

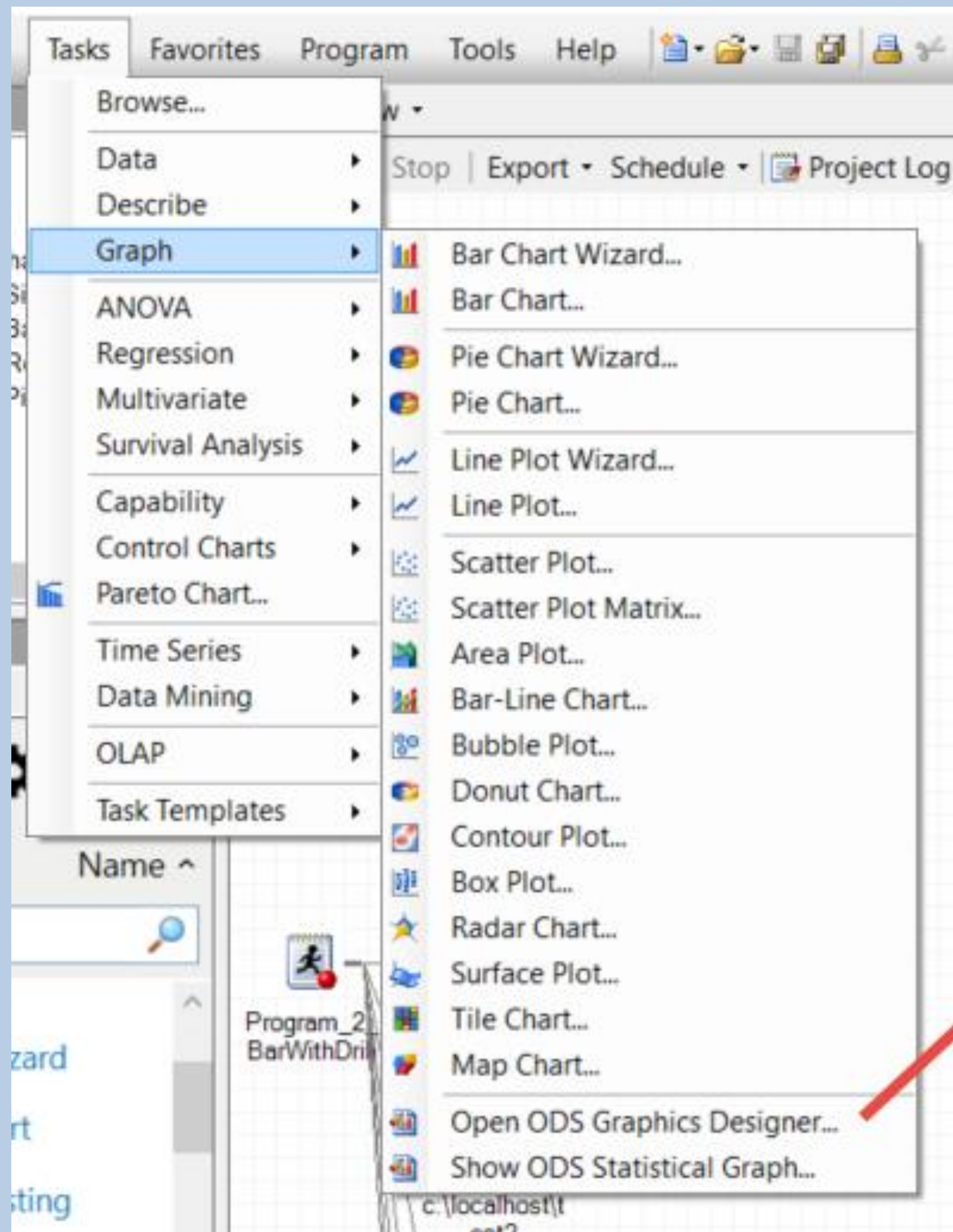
Home Page Control Panel

You may move through the slides sequentially with arrows at bottom or using hyperlinks to navigate to specific areas:

- [Finding ODS Graphic Designer in SAS Enterprise Guide](#)
- [Finding ODS Graphic Designer in Traditional Interactive SAS Display Manager](#)
- [Completing ODS Graphics Designer Input Screens, Viewing Graph Produced and Viewing Generated Code](#)
- [SAS Studio and University Edition – Installing, Finding and Using ODS Graphics Designer](#)
- [SAS Studio and University Edition – Finding the Interactive Tool to Generate SGPLOT Code and Graphs](#)



Finding ODS Graphics Designer in SAS Enterprise Guide



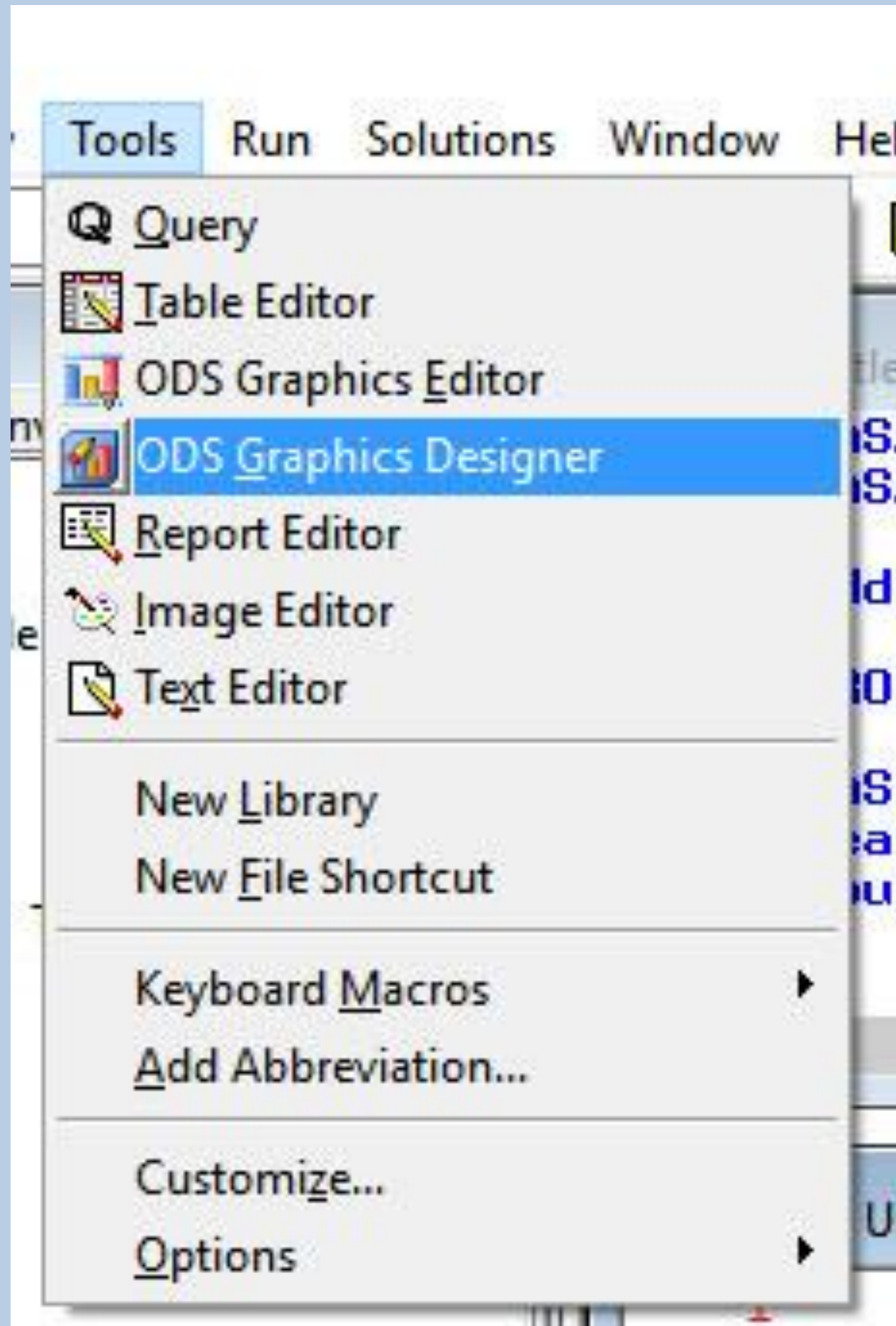
Comments on Location and Graphics Items

1. This is EG 7.1. ODS Graphics is somewhat hidden. Actually it is appended to a former set of choices for the older graphics procedures.
2. Follow the menu path from “Tasks” to “Graph” and then all the way down to “Open ODS Graphics Designer”.
3. The other graphics in this list --- e.g. scatter plot, pie chart etc., are tools for developing graphics with the conventional graphics procedures such as proc gchart, proc gplot, etc.

These procs are not considered “SG procs”, “ODS Graphics Procs”.

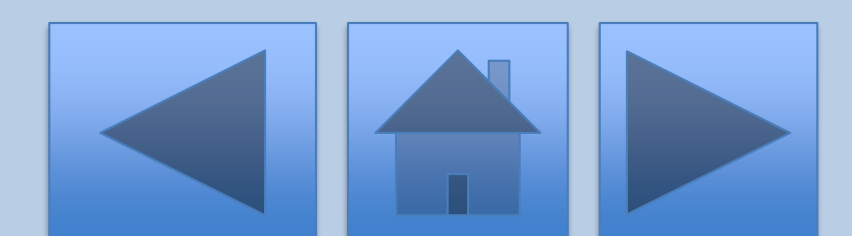


Finding ODS Graphics Designer in Traditional Interactive SAS Display Manager



Comments on Location Of ODS Graphics Designer in the Display Manager

1. This is SAS for PC/Windows (Interactive PC SAS)
2. Remember that Display Manager is the interactive environment that precedes Enterprise Guide. The term "Display Manager" only more recently came into use by most users. They just referred to it as "interactive PC SAS".
3. Follow the menu tab from "Tools" to "ODS Graphics Designer".



Composite of Completing ODS Graphics Designer Input Screens, Viewing Graph Produced and Viewing Generated Code

The screenshot displays the ODS Graphics Designer interface. On the left, the 'Graph Gallery' shows various plot types, with a blue box labeled '1' pointing to a 'Grouped Series Plot'. In the center, the 'Assign Data' dialog box is open, showing 'SASHELP' as the library and 'CARS' as the data set. A blue box labeled '2' points to the 'Data Set' dropdown. Below this, the 'Plot' type is set to 'bar', and the 'Variables' section shows 'ORIGIN' as the category, 'INVOICE' as the response, and 'TYPE' as the group. A blue box labeled '3' points to the resulting grouped bar chart on the right, which shows mean invoice values for Europe and USA, grouped by car type. A blue box labeled '4' points to the 'Code' window at the bottom left, which displays the generated SAS GTL code for the graph.

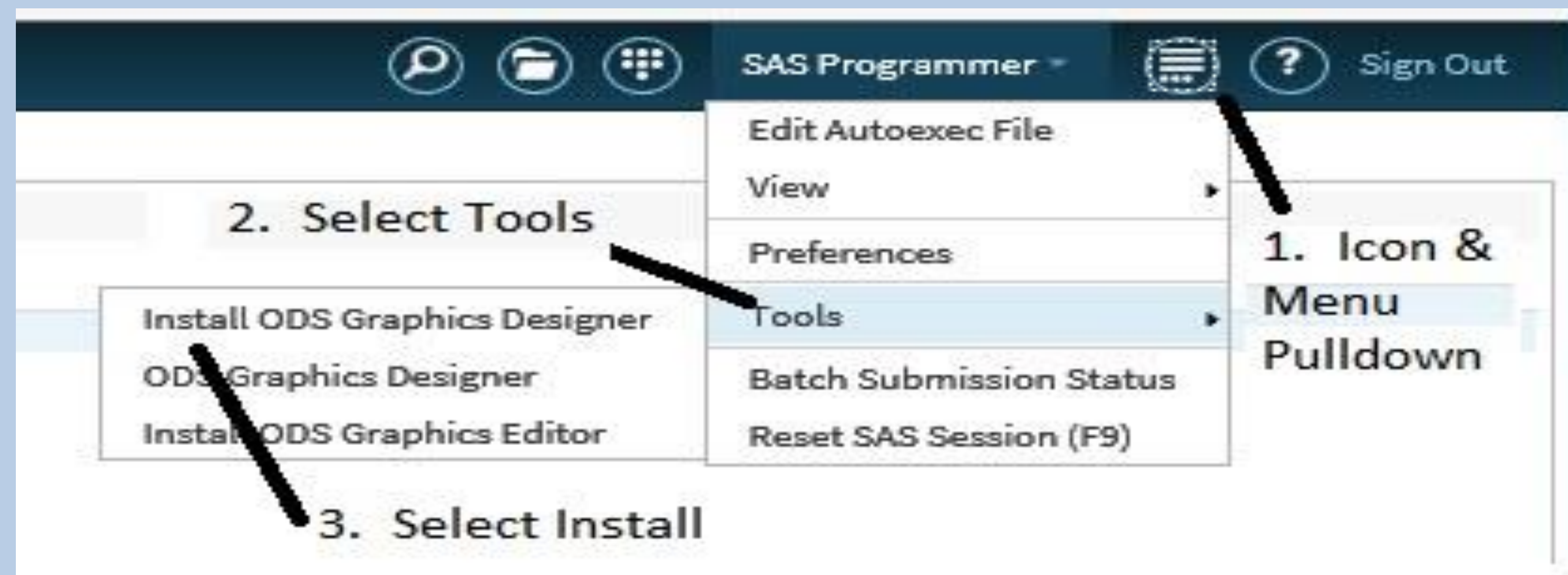
```
proc template;  
define statgraph sgdesign;  
dynamic _ORIGIN _INVOICE _TYPE,  
beginninggraph;  
entrytitle halign=center 'Roger's Test, H  
Way';  
entryfootnote halign=left 'Type in your f  
layout lattice / rowdata range=data colu  
columnngutter=10;  
layout overlap / xaxisopts=( discreteor
```

Once You Are Inside The Graphics Designer, Here is the Summarization of Steps to Follow

1. First you will pick out the type of graphic you want from the Graphics Gallery that is presented.
2. Assign data to the respective fields. It is strongly advised to use the “sashelp” data sets for training (e.g. sashelp.cars).
3. The graphic will appear. Modify and tweak the previous 2 steps until you get what you want (or close to it).
4. When perfected, choose to view the code developed behind the scenes. The bulk of this is GTL (graphics template language) code. Save this code, modify it, store it in libraries, share it, etc. for future programming efforts (particularly batch).



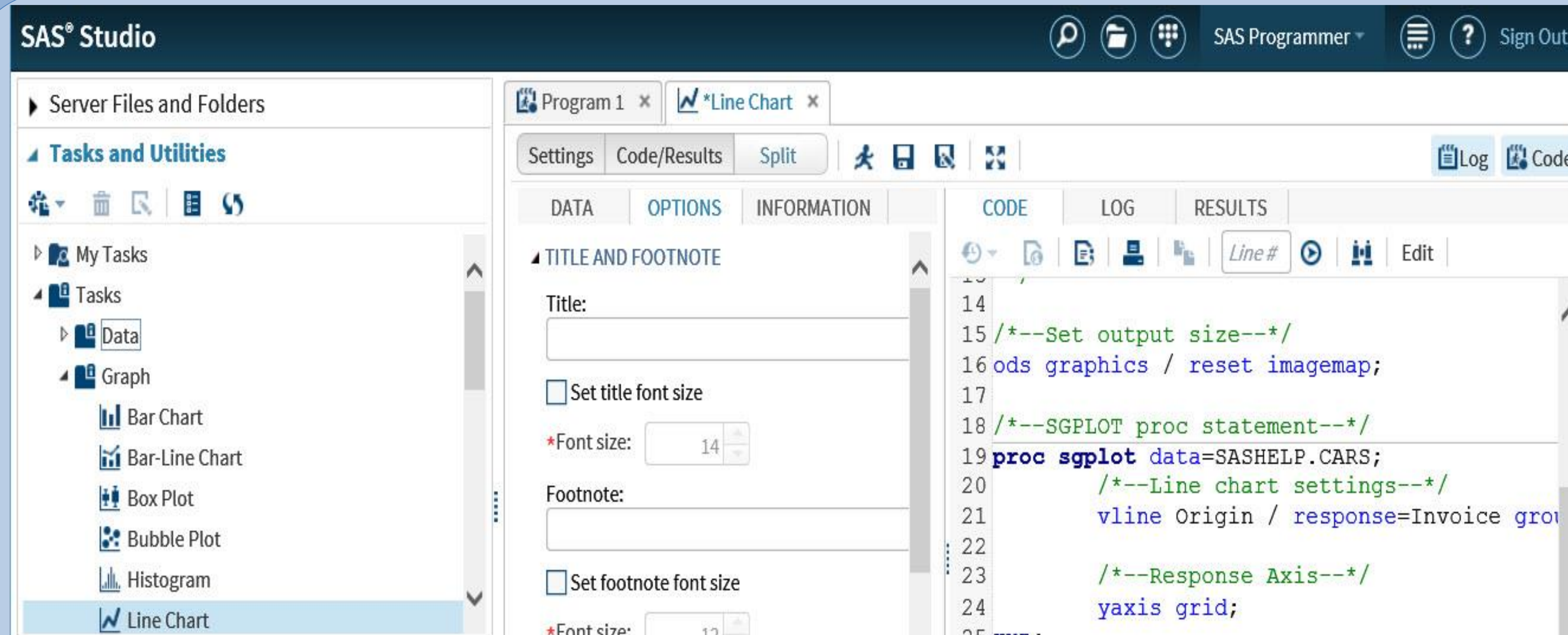
SAS Studio and University Editions – Installing, Finding and Using ODS Graphics Designer



Comments on Location Of ODS Graphics Designer in SAS Studio and Univeristy Edition

1. All SAS services are provided by an internet browser connected to a remote server.
2. ODS graphics designer needs some local computing services. There is an installation step to meet this need
3. Follow the installation steps in the figure to Install this.
4. From this point on, using ODS Graphics Designer is similar to the other environments..

- SAS Studio and University Edition – Finding the Interactive Tool to Generate SGPLOT Code and Graphs



Comments

1. This facility is unique to the SAS Studio environment. This code-generator is easy to find as shown in the figure.. It generates Proc Sgplot code
2. As shown, the code generated is based on Proc SGplot, an extremely powerful proc with immense capabilities.
3. Take the code and run it, edit it and save it.
4. Again SAS does the work!
5. Hopefully this capability will find its way into the Interactive Display Manager (DM) and Enterprise Guide (EG) interfaces.



Paper 1369 Charting Your Path to Using the “New” SAS® ODS and SG Graphics Successfully

Roger D. Muller

Data-To-Events, Inc.; The Trinomial Group

“Take Home” Points – This is WHAT YOU LEARNED!

1. With user interfaces, SAS can now write your code for the new “ODS Graphics” for you.
2. In all 3 **Interactive Environments (Display Manager, Enterprise Guide and SAS Studio**
3. ODS Graphics Designer will write code using Proc Template and Proc SGrender behind the scenes
4. In SAS Studio and the University Edition, SAS will write code using Proc Sgplot
5. All code generated can be run, edited and saved to other environments and in permanent code libraries

References

- See the printed paper in the meeting proceedings.



Paper 1369 Charting Your Path to Using the “New” SAS® ODS and SG Graphics Successfully

Roger D. Muller

Data-To-Events, Inc.; The Trinomium Group

Contact Information

Name: Roger D. Muller

Organization: Data To Events, Inc.

Address: 14475 Stephanie St.

City, State ZIP: Carmel, IN 46033

Work Phone: 317/985-0132

E-mail: Roger.Muller@Data-To-Events.com

Web: www.data-to-events.com

Twitter:





SAS[®] GLOBAL FORUM 2017

April 2 – 5 | Orlando, FL

