



Ask the Expert

SAS Studio: Advanced Topics and What's New

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Ask the Expert SAS® Studio: Advanced Features and What's New

Takeaways from today's session

- Learn about new features and SAS Studio – currently version 3.6
- See new ways to interact with SAS Studio

Ask the Expert SAS® Studio: Advanced Features and What's New

AGENDA

- Quick review of what SAS Studio is, who should use it and how it operates
- Review of new features
- Demonstration

SAS Studio is a browser-based SAS programming and code generation interface

- Available via a browser on any device that connects to your SAS environment
- Easier administration - update once and gain latest updates/versions
- More features are added with every release
- As of 9.4 M2, If you have Base SAS, you have SAS Studio

Ask the Expert

How does SAS® Studio operate?

- Use the web browser to access your programs, data, libraries, etc.
- When you run a program or task, SAS Studio connects to SAS to process the SAS code
- After the code is processed, the log and results are returned to SAS Studio



Ask the Expert Which browsers support SAS® Studio?

SAS Studio is an HTML5 application that requires no browser plug-ins

- Microsoft Internet Explorer 9, 10, 11
- Mozilla Firefox 21+
- Google Chrome 27+
- Apple Safari 6.0+ (on Apple OS X)

http://www.sas.com/en_us/software/foundation/studio.html#m=system-requirements



What's new

SAS Studio 3.3

New Features and Enhancements

- New **Visual Programming perspective**, which enables you to create process flows. This new perspective enables you to create process flows. A process flow consists of one or more objects. Each object is represented by a node in the process flow. The process flow shows the relationship between two or more objects, such as a SAS program, a task, a query, and so on.
- New tool to create **Queries**. You can use the query feature to extract data from one or more tables according to criteria that you specify. You can create a query that is based on only one table, or you can join tables together. When you create a query, you specify the columns to include in the output, and you can filter the rows that are included based on values in the data. You can also perform a summary function on the columns in your data and sort your data by one or more columns.

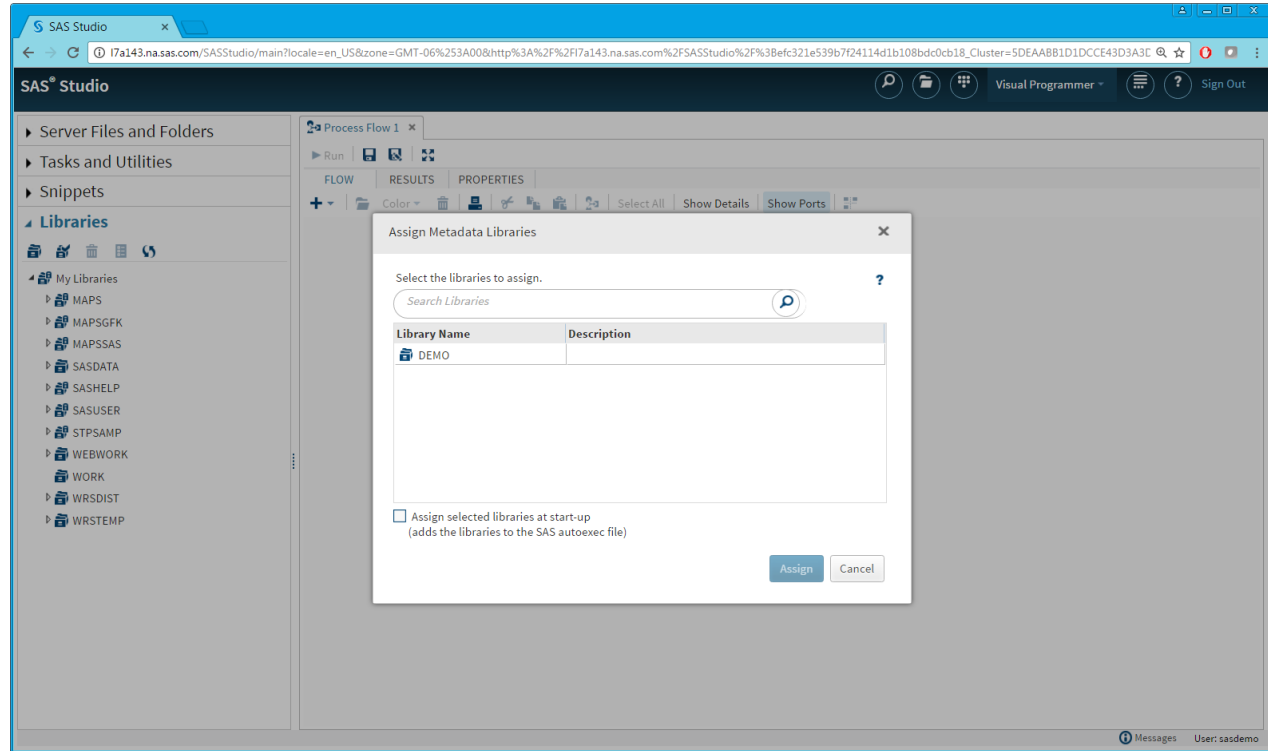
- Importing Data
 - You can **import Excel files**, delimited files, and other DBMS file types. If you are using the Visual Programming perspective, importing data can be a node in your process flow.
- Support for z/OS Files
 - SAS Studio 3.4 provides **native file support** for z/OS environments. Using SAS Studio 3.4, you can easily access any of your existing z/OSfiles. You can also use the interface to create sequential and partitioned z/OS data sets.

- General Enhancements
 - In the code editor, **autocomplete** is now available for librefs and table names.
 - When you run a query or import data in SAS Studio, an output data set is created. Some predefined tasks (such as the Rank task) also create output data sets. In SAS Studio, these output data sets open on the Output Data tab.
 - **Process flows** are available if you are using the **Visual Programmer** perspective. Starting in this release, you can drag a data set from the Libraries pane and add it to a process flow. For more information, see [Add Data to the Process Flow](#).
 - You can now open any file in the Text Viewer, which enables you to quickly see the data or code in a file. This functionality might be useful if you are trying to determine the delimiter used in a TXT file.

- The SAS **Rapid Predictive Modeler** is designed to build models for data mining classification and regression problems
- The Stack/Split Columns task combines the values of several columns into a single new column. You can use this task to convert multivariate data to a univariate organization
- The Standardize Data task enables you to center or standardize one or more numeric variables by using a variety of methods. The standardized variables are saved in an output data set
- The Transform Data Task enables you to transform one or more variables in the input data set. These transformed variables are saved to an output data set

SAS Studio 3.4

- Assign Metadata libraries



SAS Studio 3.4

Stored Process

- With Prompt and Output

The screenshot displays the SAS Studio 3.4 interface. On the left, the 'Server Files and Folders' pane shows a tree view with 'SP_Cars_Prompted' selected under 'My Folder'. The main editor window shows the following SAS code:

```
1 /*
2 *
3 * Task code generated by SAS Studio 3.4
4 *
5 * Generated on '3/30/16, 10:19 PM'
6 * Generated by 'sasdemo'
7 * Generated on server 'SASVA.DEMO.SAS.COM'
8 * Generated on SAS platform 'X64_E808R2 WIN'
9 * Generated on SAS version '9.04.01M3P06242015'
10 * Generated on browser 'Mozilla/5.0 (Windows NT 6.1; WOW64; rv:45.0) Gecko/20100101 Firefox/45.0'
11 * Generated on web client 'http://sasva.demo.sas.com/SASstudio/main?locale=en_US&zone=GMT-04%253A00&http%3A%2F%2F%'
12 *
13 */
14
15 proc stp program="/User Folders/sasdemo/My Folder/SP_Cars_Prompted"
16       odsout=replay;
17       inputparam Make="Acura";
18 run;
19
20 quit;
```

The 'RESULTS' pane shows a 'Summary Tables' section with the following table:

Origin	Make	Model	MSRP	Invoice
Asia	Acura	3.5 RL 4dr	\$43,765.00	\$38,014.00
		3.5 RL w/Navigation 4dr	\$46,100.00	\$41,100.00
		MDX	\$36,945.00	\$33,337.00
		RLX coupe 2dr manual S	\$60,765.00	\$19,670.00
		RLX Type S 2dr	\$23,020.00	\$11,761.00
		TL 4dr	\$33,195.00	\$30,298.00
		TLX 4dr	\$25,990.00	\$24,647.00

Generated by the SAS System (SASApp, X64_E808R2) on March 30, 2016 at 10:10:41 PM

SAS Studio 3.4

SAS Rapid Predictive Modeler

Model Gains Chart: Cumulative Captured Response Rate by Decile

Cumulative Lift	1.962	1.989	1.938	1.911	1.854	1.822	1.774	1.71	1.646	1.597	1.534	1.462	1.328	1.279	1.215	1.155	1.101	1.048	1	
Model Best	10%	20%	25%	35%	40%	55%	62%	69%	74%	80%	84%	87%	91%	92%	96%	97%	98%	99%	100%	
Percentile	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%	100%

- A new **Background Submit** feature
- The ability to create **Global settings** for all SAS Studio users at your site
- A new **Messages window** that displays information about the programs, tasks, queries, and process flows that you run
- Enhancements to the table viewer
- New table of contents in results
- New keyboard shortcuts to add and insert code snippets
- New Open button on the SAS Studio toolbar
- Many new tasks for statistical process control, multivariate analysis, econometric analysis, and power and sample size analysis


SAS Studio 3.5

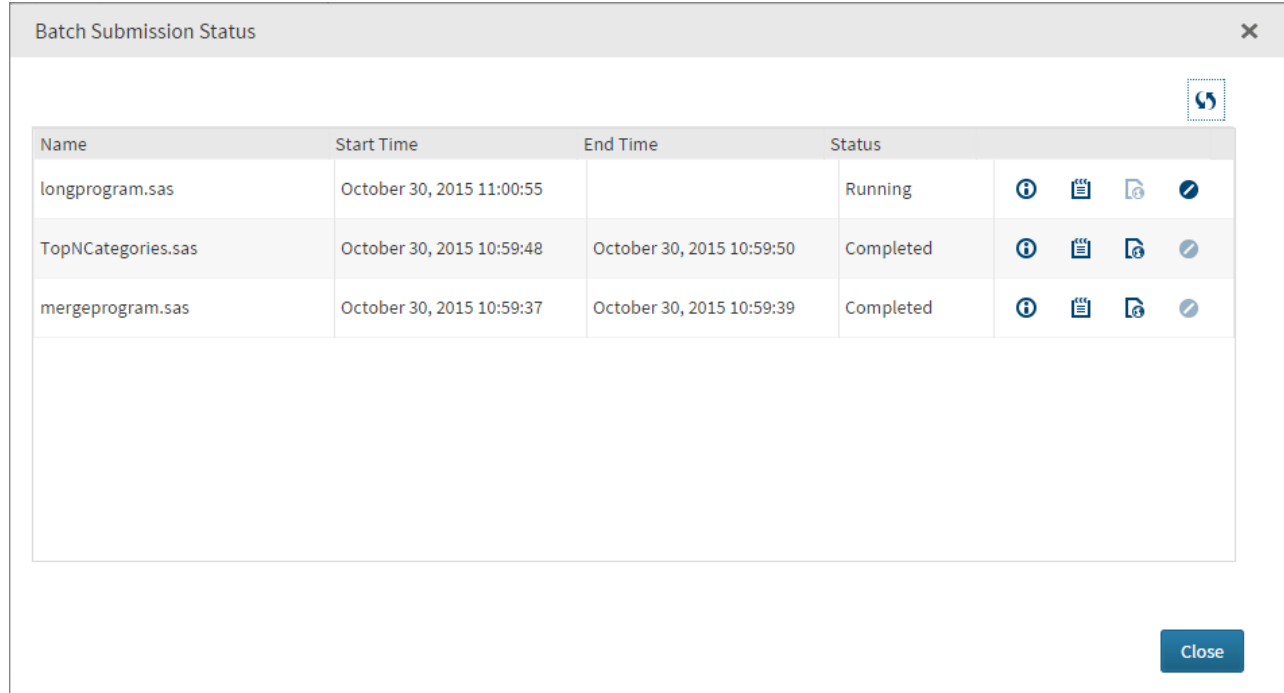
Background submit













- To run a program in background mode, right-click the program in the navigation pane and select Batch Submit.
- By default, a notification message is displayed when the program is submitted and again when the program has finished running. If you log off of SAS Studio while the program is running, the program continues to run, but the notification message that indicates when the program is finished is not displayed.
- Note: Because background mode uses a separate workspace server, any libraries that are created by your program do not appear in the Libraries section of the navigation pane in SAS Studio.

SAS Studio 3.5

background submission status

- To view the status of your batch jobs, click  and select Background Submission Status



Name	Start Time	End Time	Status	
longprogram.sas	October 30, 2015 11:00:55		Running	   
TopNCategories.sas	October 30, 2015 10:59:48	October 30, 2015 10:59:50	Completed	   
mergeprogram.sas	October 30, 2015 10:59:37	October 30, 2015 10:59:39	Completed	   

SAS Studio 3.5

- Table of Contents for Multiple Outputs

The screenshot displays the SAS Studio 3.5 interface. The left pane shows the 'DATA' tab with 'SASHELP.CARS' selected. The 'ROLES' section lists variables: Model, MSRP, and MPG_City. The 'Group analysis by:' section is set to 'Make'. The 'Total of:' section shows 'Column' and the 'Identifying label:' section also shows 'Column'. The right pane shows the 'RESULTS' tab with a 'Table of Contents' for 'The PRINT Procedure'. The contents are organized by 'Make': Acura, Audi, BMW, and Buick. Each 'Make' entry includes a 'Data Set WORK.SORTTEMP'. The 'Make=BMW' entry is selected, and a data table is displayed below it.

Make=BMW			
Obs	Model	MSRP	MPG (City)
27	X3 3.0i	\$37,000	16
28	X5 4.4i	\$52,195	16
29	325i 4dr	\$28,495	20
30	325Ci 2dr	\$30,795	20
31	325Ci convertible 2dr	\$37,995	19
32	325xi 4dr	\$30,245	19
33	330i 4dr	\$35,495	20
34	330Ci 2dr	\$36,995	20
35	330xi 4dr	\$37,245	20
36	525i 4dr	\$39,995	19
37	330Ci convertible 2dr	\$44,295	19
38	530i 4dr	\$44,995	20
39	545iA 4dr	\$54,995	18
40	745i 4dr	\$69,195	18
41	745Li 4dr	\$73,195	18
42	M3 coupe 2dr	\$48,195	16
43	M3 convertible 2dr	\$56,595	16
44	Z4 convertible 2.5i 2dr	\$33,895	20
45	Z4 convertible 3.0i 2dr	\$41,045	21
46	325xi Sport	\$32,845	19

- SAS Studio **repositories** are an easy way for you to share tasks and snippets with other users at your site. A repository can contain only tasks, only snippets, or both. After these tasks and snippets are added to a repository that is accessible in SAS Studio, you can access and use these items like any other SAS Studio tasks and snippets.
- In SAS Studio, repositories appear in the Tasks and Utilities section and the Snippets section in the navigation pane.
- Administrators can create **global repositories**. These repositories are available to everyone at your site. If your administrator allows it, you can also set your preferences to access additional repositories.

SAS Studio 3.6

- You can now **create** a SAS program from a **process flow**
- A new preference enables you to control the level of **automatic refreshes** that occur or to specify whether to refresh the file navigation tree manually
- You can use the new Start-Up preferences to specify whether SAS Studio **opens** in the state that you closed it. For example, any tabs that you had open in a prior session will be open in the new session
- For background submit jobs, you can now **specify the location** of the output and log files. You can also specify what action to take if an output or log file already exists

SAS Studio 3.6

- You can now **generate** HTML graphs in the **SVG** format.
- Many **new** analytical **tasks** for statistical process control, multivariate analysis, econometric analysis, and power and sample size are now available.
- This release includes new analytical tasks in these categories: power and sample size, cluster analysis, and network optimization.
- New code snippets and tasks enable you to connect to the SAS Viya environment and to use Cloud Analytic Services (CAS) tables



Demonstration

SAS Studio

Don't have access to SAS Studio?

- SAS University Edition is available for download for *non-commercial* use and it has been upgraded to the latest version

Ask the Expert

Resources

Videos – at last check, 34 videos with more being added all the time:

- 8 minutes getting started: <http://support.sas.com/training/tutorial/studio/get-started.html>
- 7 minutes intermediate: <http://support.sas.com/training/tutorial/studio/working-studio.html>
- 34 minutes comprehensive: <http://www.sas.com/reg/web/corp/2305758>
- 46 minutes comprehensive <http://www.sas.com/apps/webnet/video-sharing.html?bcid=4416160107001>

FAQ / Help Center

<http://support.sas.com/software/products/sasstudio/faq/index.html>

SAS Studio Community

https://communities.sas.com/t5/SAS-Studio/bd-p/sas_studio

SAS Global Forum Paper

<http://support.sas.com/resources/papers/proceedings14/SAS302-2014.pdf>

Overview, Documentation, Training, Samples and Tips

<http://support.sas.com/software/products/sasstudio/#s1=1>

Blogs

<http://blogs.sas.com/content/sgf/2016/08/31/quick-way-update-sas-studio-3-5/>

Q&A

Please submit your questions in the Q&A window



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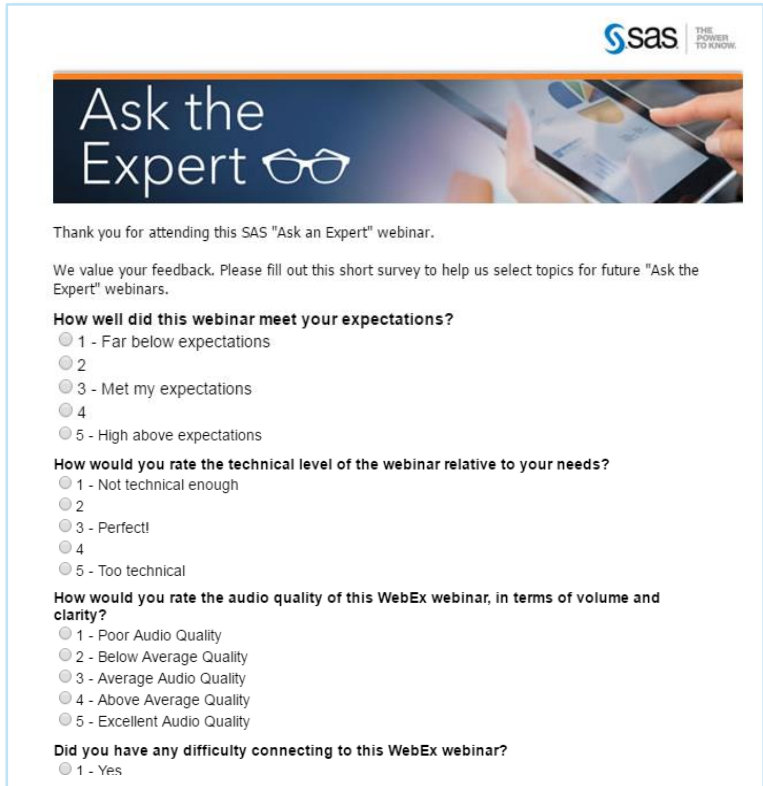
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Ask the Expert Feedback



The image shows a screenshot of a feedback survey form titled "Ask the Expert" with a glasses icon. The form includes the SAS logo and tagline "THE POWER TO KNOW." at the top right. The main heading is "Ask the Expert" with a glasses icon. Below the heading, there is a thank you message and a request to fill out a survey. The survey contains four questions with radio button options:

How well did this webinar meet your expectations?

- 1 - Far below expectations
- 2
- 3 - Met my expectations
- 4
- 5 - High above expectations

How would you rate the technical level of the webinar relative to your needs?

- 1 - Not technical enough
- 2
- 3 - Perfect!
- 4
- 5 - Too technical

How would you rate the audio quality of this WebEx webinar, in terms of volume and clarity?

- 1 - Poor Audio Quality
- 2 - Below Average Quality
- 3 - Average Audio Quality
- 4 - Above Average Quality
- 5 - Excellent Audio Quality

Did you have any difficulty connecting to this WebEx webinar?

- 1 - Yes

Please fill out survey as you leave
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