



What's New in SAS Enterprise Guide 8.1

Why Update SAS Enterprise Guide?

Things we can do better

Max 2 tabs

Single monitor

Dated look

Forced to work with a project

SAS Enterprise Guide



Do you want to replace the results from the previous run?

Choosing "No" will save the changes to a new task, named "Program (2)".

Yes

No

Annoying modal dialogs



Enterprise Guide is not able to open this data set in update mode; it will remain, or will be opened, in read-only mode.

The open data operation failed. The following error occurred.
[Error] A lock is not available for SASUSER.MYFAFMSG.DATA.

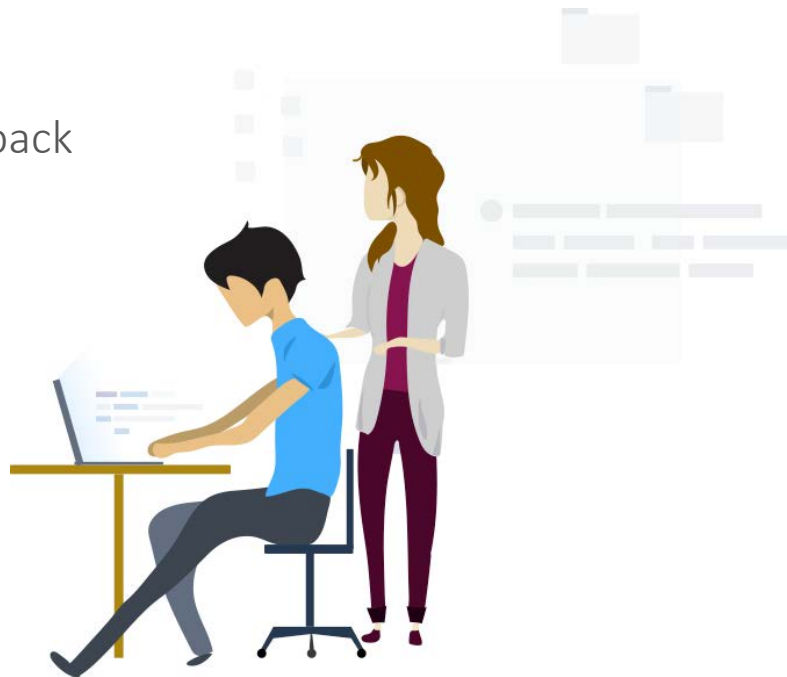
OK

Data locking

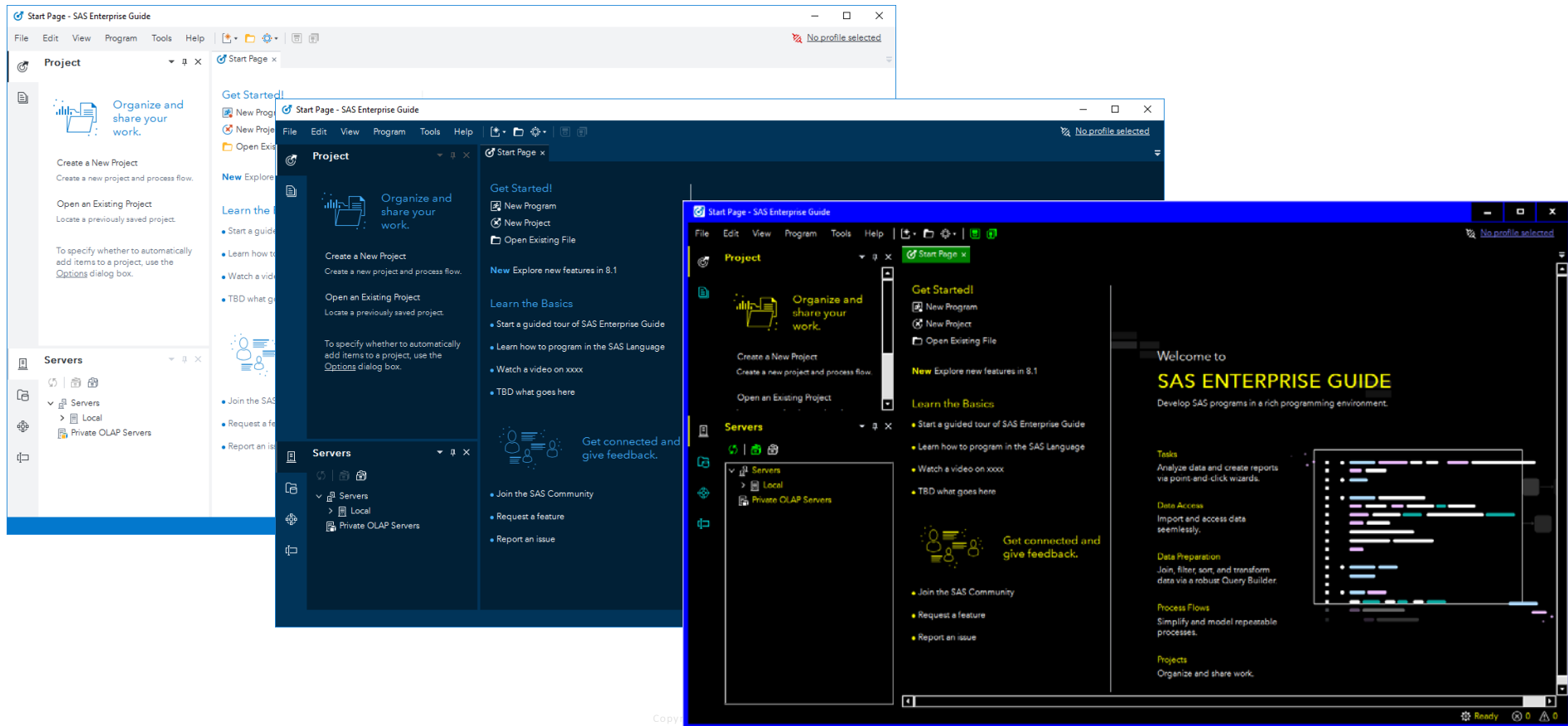
The Plan

Modernize, Yet Keep the Essence

- Why?
 - Supporting the work you do
 - Listening and responding to your feedback
 - Interchangeability with SAS Studio
- How?
 - Attractive, flexible, smart
 - Take advantage of being a desktop app
- When?
 - June 18, 2019



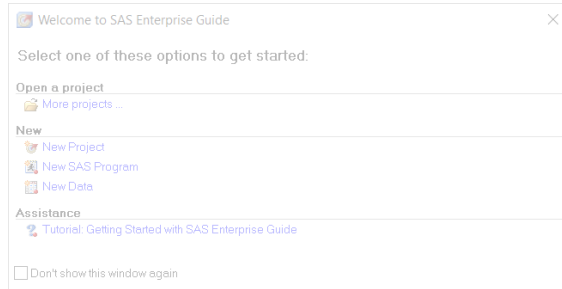
Meet SAS Enterprise Guide 8.1



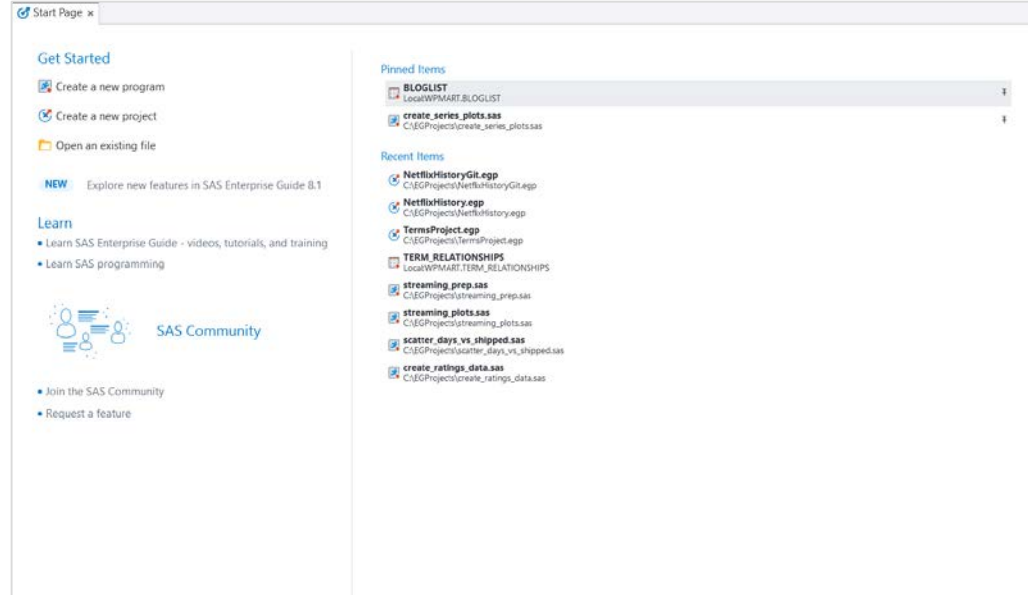
Onboarding

First Impressions Matter

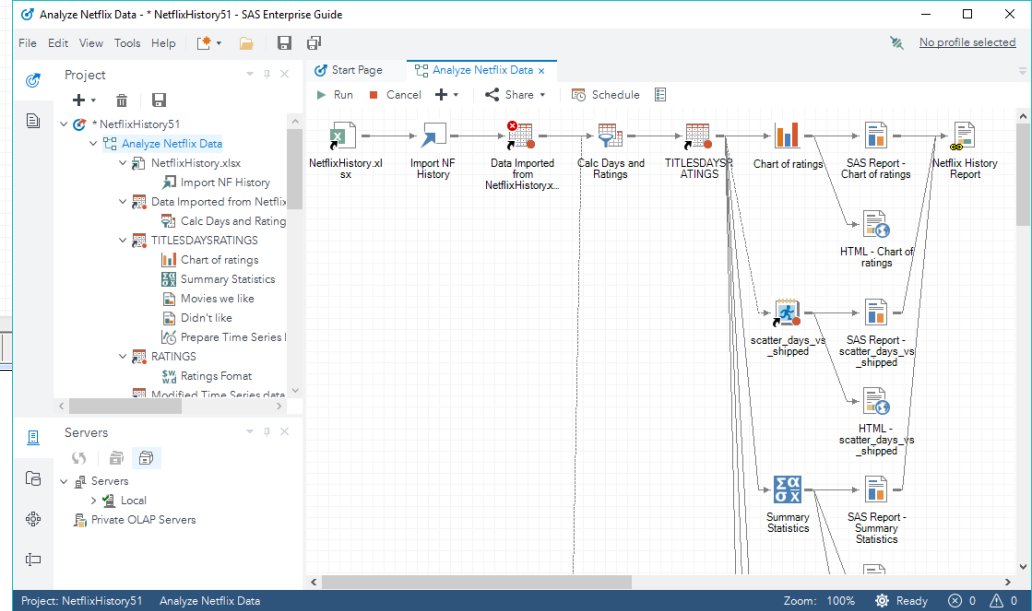
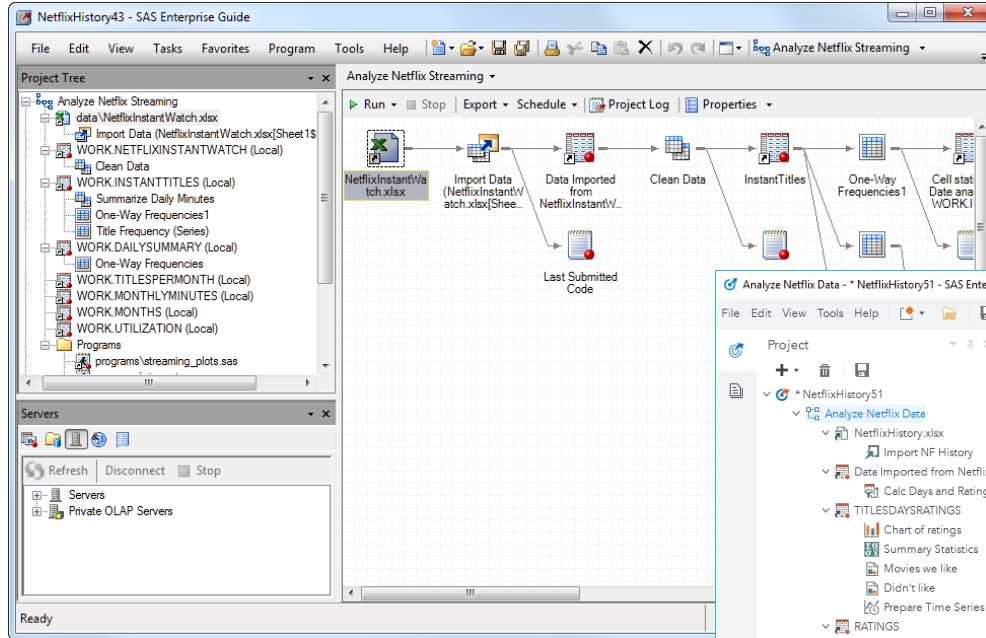
Before



After



Refresh the Look



Refresh the Look

The screenshot shows the SAS Enterprise Guide interface with the following components and annotations:

- Navigation side bar with panes:** Located on the left, it includes a Project pane showing a tree view of the project structure (Process Flow, Programs, Program 1, Program 1.sas, Program 2, SampleProgram.sas) and a Servers pane showing Local Libraries, Files, and Private OLAP Servers.
- Workspace area:** The central area displaying the SAS code for SampleProgram.sas. The code includes comments and SAS steps for data subsetting and means calculation.
- Tools area:** Located at the bottom right, it contains the Submission Status pane with buttons for All, Errors, Warnings, Queued, Cancel all, and Clear all. It also displays a table of submission status information.
- Status bar:** Located at the bottom, it shows the current project (Project: Project) and the active file (HTML - SampleProgram.sas).
- Profile connection:** A blue box with the text "Profile connection" pointing to the "No profile selected" status in the top right corner.

Code in the Workspace area:

```
1 /* use a DATA step to subset data test */
2 data localCars;
3   set sashelp.cars(where=(origin="USA"));
4 run;
5
6 title "All USA cars, all variables";
7 /* produces a report of all numeric variables */
8 proc means data=localCars
9   mean stddev median mode n;
10 run;
11
12 title "All USA cars, just MPG numbers";
13 /* narrows the processing to MPG numbers */
14 proc means data=localCars
15   mean stddev median mode n;
16   var mpg_highway mpg_city;
17 run;
18
19 title "All USA cars, just MPG numbers";
20 title2 "by type?";
21 proc means data=localCars
```

Submission Status Table:

Submission	Status	Run Time	Submitted	Completed	Process Flow	Server
SampleProgram.sas	Collecting...		10/13/2018 3:06:08 PM		Process Flow	Local
SampleProgram.sas	Preparing server...				Process Flow	Local

The Navigation Panes

Most of the panes are trees that contain folders and files. You can do many things from them:

- Create, delete, and rename files and folders.
- Move files and folders with drag and drop.
- Use the context menu to explore all options.



Tip: Drag and drop these panes and use the Layout Guide to help you position them where you like them.

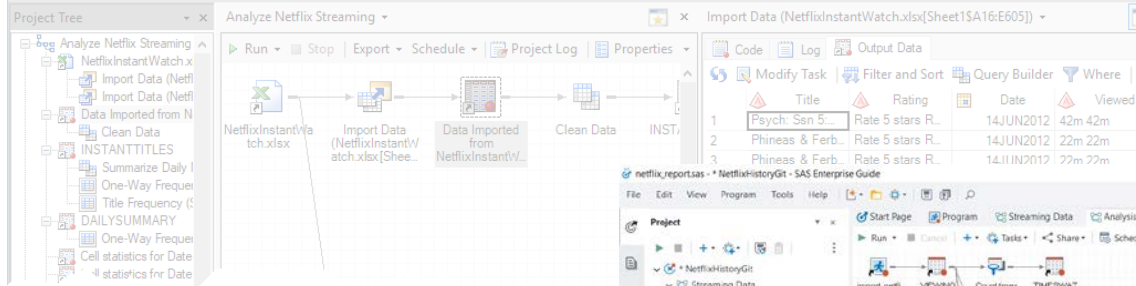


Open Items - At a glance you can see a list of your currently opened files.

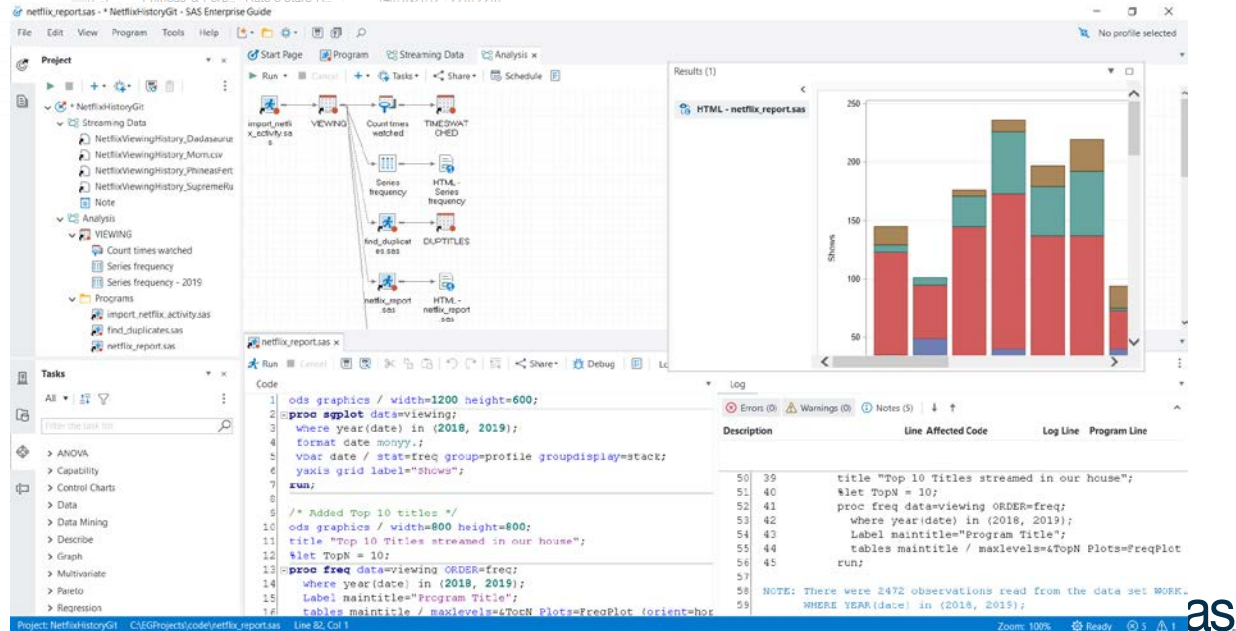
Flexible Layout

Tab groups, floating, docking, oh my!

Before: Max 2 tabs and single monitor



After: Unlimited tabs & multiple monitors



Working with Code, Log, Results

At the Same Time!

Before: Choose which ONE to view

Program ▾

Program* Log Output Data (4) Results

Refresh Export Send To Create Publish Properties

Percent utilization

Obs	Make	Model	Type	Origin	DriveTrain	MSRP
1	Audi	A6 4.2 Quattro 4dr	Sedan	Europe	All	\$49,690
2	Audi	A8 L Quattro 4dr	Sedan	Europe	All	\$69,190
3	Audi	S4 Quattro	Sedan	Europe	All	\$48,040

After: View ALL

* Program x

Run Cancel [Icons] Share Debug Local ▾

Code Results (1) Output Data (4)

```
1 proc sort data=sashelp.cars out=cars;
2 by make;
3 run;
4 data testme;
5 set cars(where=(cylinders eq 8)) nobs=numObs;
6 format dollarsPerHorse dollar20.2 runningAverageHorsepower=runningHorses/_n_;
7 retain runningHorses;
8 by make;
9 if _n_ eq 1 then runningHorses=0; else runningHorses=runningHorses+1;
10 runningAverageHorsepower=runningHorses/_n_;
11 dollarsPerHorse=invoice/Horsepower;
12 run;
13 proc print;
14 run;
15 data _null_;
16 y=(0.1 + 0.2) + 0.3;
17 z=0.1 + (0.2 + 0.3);
18 if y eq z then do;
19 put "equal";
20 end;
21 run;
22 data a;
23 set sashelp.class;
24 if sex eq "F";
25 output;
26 run;
27 data b;
28 set sashelp.class;
29 where sex eq "F";
30 run;
```

Obs	Make	Model	Type	Origin	DriveTrain	MSRP
1	Audi	A6 4.2 Quattro 4dr	Sedan	Europe	All	\$49,690
2	Audi	A8 L Quattro 4dr	Sedan	Europe	All	\$69,190
3	Audi	S4 Quattro 4dr	Sedan	Europe	All	\$48,040
4	Audi	RS 6 4dr	Sports	Europe	Front	\$84,800
5	Audi	S4 Avant Quattro	Wagon	Europe	All	\$49,090
6	BMW	X5 4.4i	SUV	Europe	All	\$52,195
7	BMW	545iA 4dr	Sedan	Europe	Rear	\$54,995
8	BMW	745i 4dr	Sedan	Europe	Rear	\$69,195
9	BMW	745i i 4dr	Sedan	Europe	Rear	\$73,195

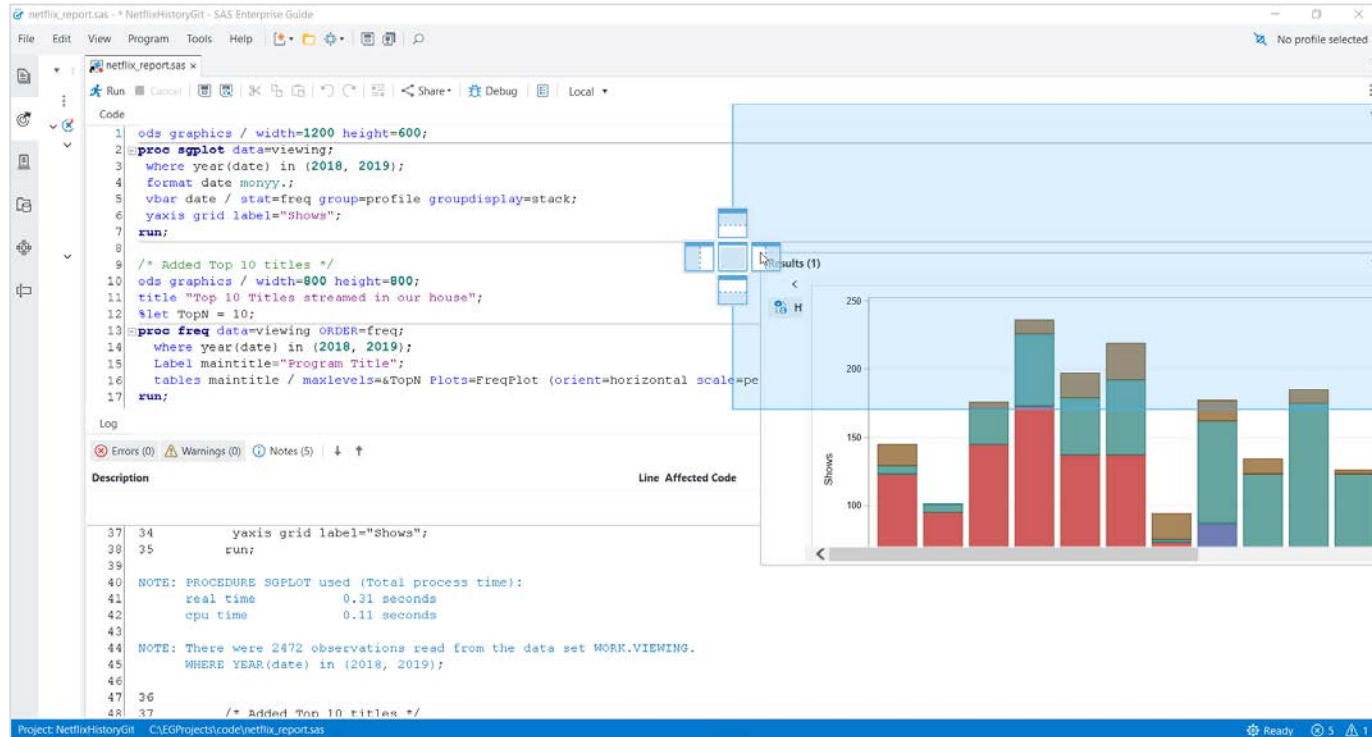
Log

Errors (0) Warnings (0) Notes (17) | ↓ ↑

```
101
102 NOTE: There were 9 observations read from the
103       WHERE sex='F';
104 NOTE: The data set WORK.B has 9 observations.
105 NOTE: DATA statement used (Total process time
106       real time           0.01 seconds
107       cpu time             0.01 seconds
108
109
110 57
111 58          %LET _CLIENTTASKLABEL=;
112 59          %LET _CLIENTPROCESSFLOWNAME=;
```

Working with Code, Log, Results

Drag a tab then use the Layout Guide to help you position the tab



Working with Code, Log, Results

Or use preset layouts

The screenshot displays the SAS Enterprise Guide interface for a project named 'netflix_report.sas'. The 'View' menu is open, showing options for 'Program tab presets' and 'Reset to default layout'. The 'Program' panel shows SAS code for a stacked bar chart. The 'Log' panel shows the execution log, including a note about the number of observations. The 'Results' panel shows a stacked bar chart titled 'Results (1)' with the y-axis labeled 'Shows'.

Code:

```
/ width=1200 height=600;  
data=viewing;  
date) in (2018, 2019);  
monyy.;  
stat=freq group=profile groupdisplay=stack;  
label="Shows";  
  
/* Added Top 10 titles */  
10 titles */  
/ width=800 height=800;  
house";  
N Plots=FreqPlot (orient=horizontal scale=percent);  
  
where year  
Label main  
tables main  
run;
```

Log:

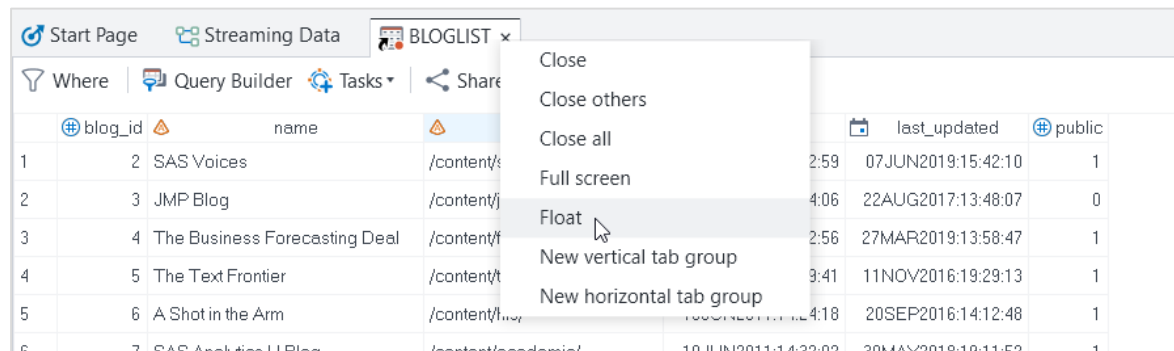
```
NOTE: PROCEDURE SGPlot used (Total process time):  
real time 0.31 seconds  
cpu time 0.11 seconds  
  
NOTE: There were 2472 observations read from the data set WORK.VIEWING.  
WHERE YEAR(date) in (2018, 2019);
```

Results (1):

A stacked bar chart showing the number of shows for different titles. The y-axis is labeled 'Shows' and ranges from 0 to 250. The x-axis shows 10 titles. The bars are stacked with red at the bottom, teal in the middle, and brown at the top.

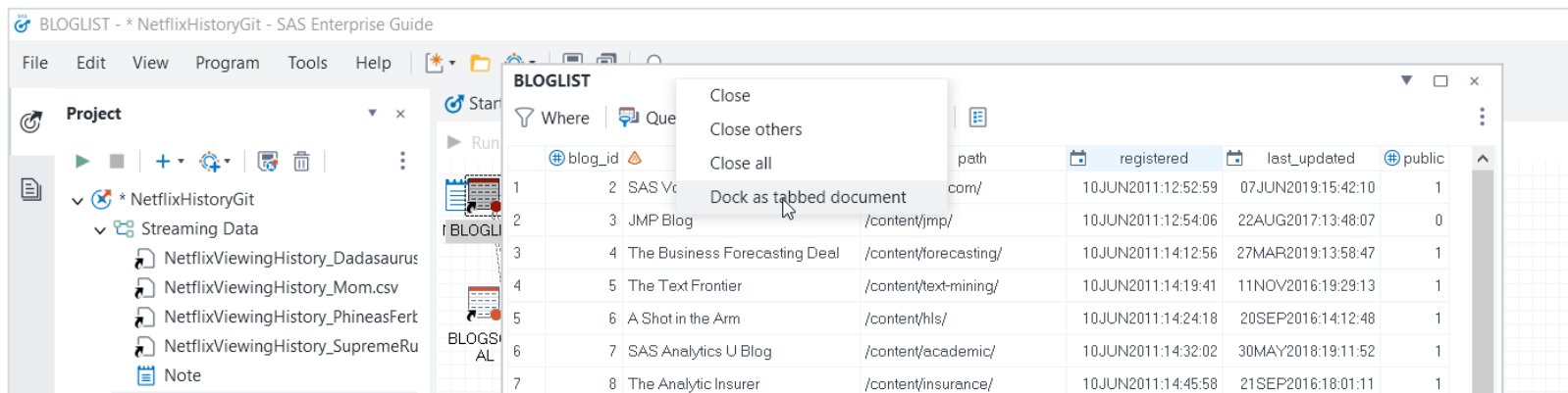
Title	Shows
1	140
2	100
3	180
4	200
5	220
6	100
7	180
8	130
9	130
10	20

Float a Tab Within the App or To Another Monitor



The screenshot shows the SAS interface with the 'BLOGLIST' tab selected. A context menu is open over the tab, displaying the following options: Close, Close others, Close all, Full screen, Float, New vertical tab group, and New horizontal tab group. The 'Float' option is highlighted by the mouse cursor. The background shows a table with columns: blog_id, name, last_updated, and public.

blog_id	name	last_updated	public
1	SAS Voices	07JUN2019:15:42:10	1
2	JMP Blog	22AUG2017:13:48:07	0
3	The Business Forecasting Deal	27MAR2019:13:58:47	1
4	The Text Frontier	11NOV2016:19:29:13	1
5	A Shot in the Arm	20SEP2016:14:12:48	1
6	SAS Analytics U Blog	30MAY2018:19:11:52	1



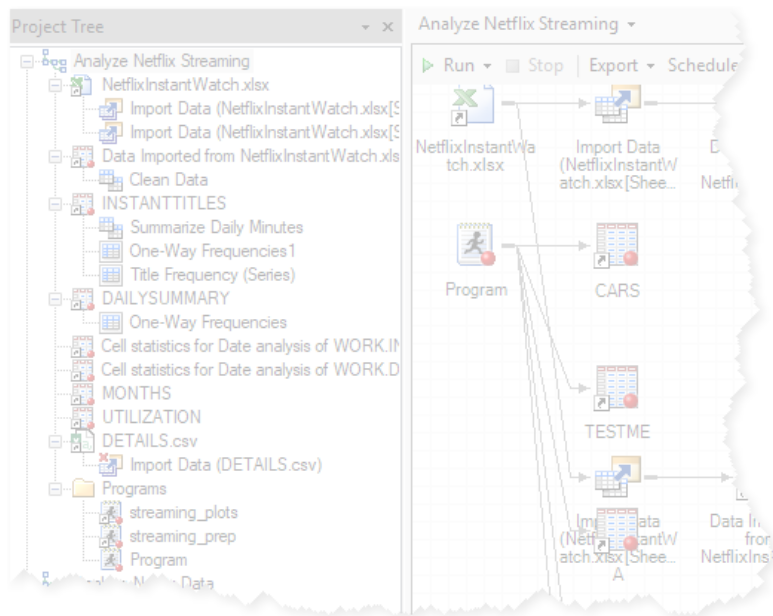
The screenshot shows the SAS interface with the 'BLOGLIST' tab selected. A context menu is open over the tab, displaying the following options: Close, Close others, Close all, Dock as tabbed document, and Float. The 'Dock as tabbed document' option is highlighted by the mouse cursor. The background shows a table with columns: path, registered, last_updated, and public.

path	registered	last_updated	public
com/	10JUN2011:12:52:59	07JUN2019:15:42:10	1
/content/jmp/	10JUN2011:12:54:06	22AUG2017:13:48:07	0
/content/forecasting/	10JUN2011:14:12:56	27MAR2019:13:58:47	1
/content/text-mining/	10JUN2011:14:19:41	11NOV2016:19:29:13	1
/content/hls/	10JUN2011:14:24:18	20SEP2016:14:12:48	1
/content/academic/	10JUN2011:14:32:02	30MAY2018:19:11:52	1
/content/insurance/	10JUN2011:14:45:58	21SEP2016:18:01:11	1

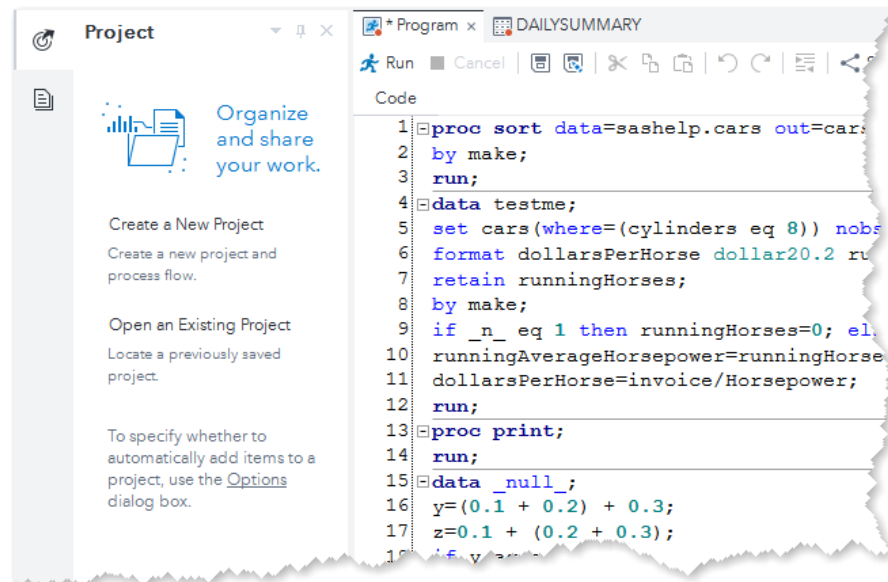
Working with a Project or NOT!

Program-centric Development

Before: Project required!

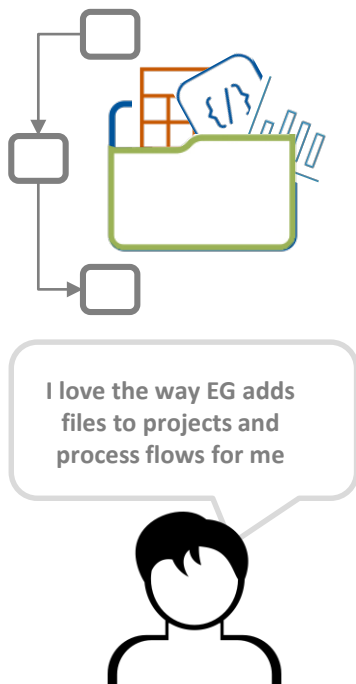


After: Project optional!



Adding Files to a Project

Automatically



Project and Process Flows

[Reset](#)

☒ When an item is opened automatically add to the project

General

☐ Enable automatic file logging for new projects

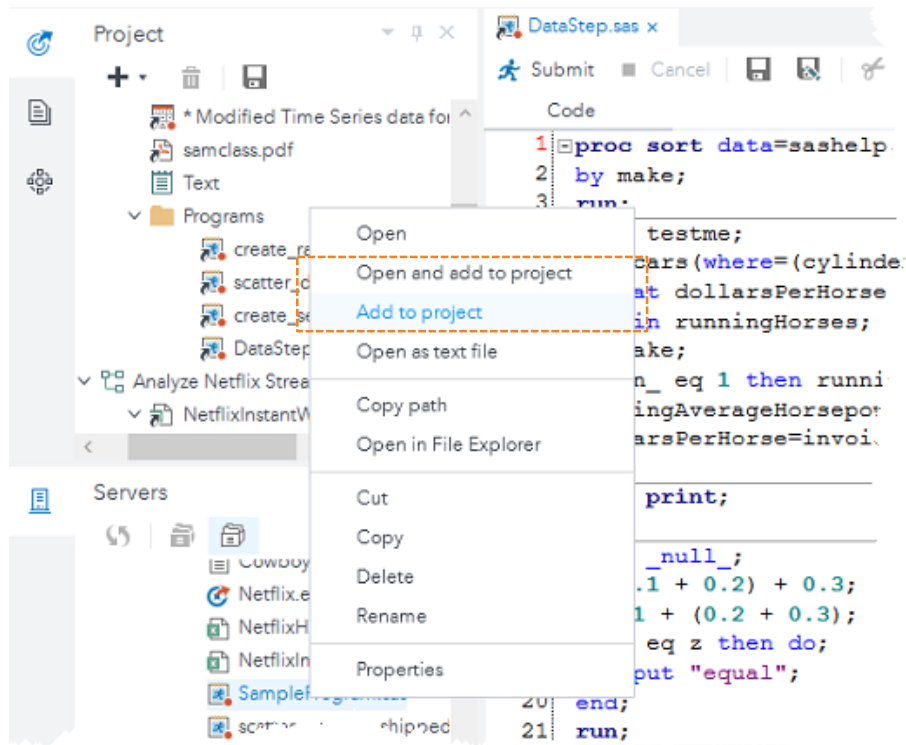
Option to automatically add items to a project

```
1 proc sort data=sashelp.c
2 by make;
3 run;
4 data testme;
5 set cars(where=(cylinder
6 format dollarsPerHorse d
7 retain runningHorses;
8 by make;
9 if _n_ eq 1 then running
10 runningAverageHorsepower
11 dollarsPerHorse=invoice/
12 run;
13 proc print;
14 run;
15 data _null_;
16 y=(0.1 + 0.2) + 0.3;
17 z=0.1 + (0.2 + 0.3);
18 if y eq z then do;
19 put "equal";
20 end;
21 run;
22 data a;
23 set sashelp.class;
24 if sex eq "F";
25 run;
```

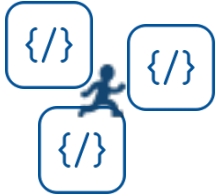
Add Files to a Project Manually



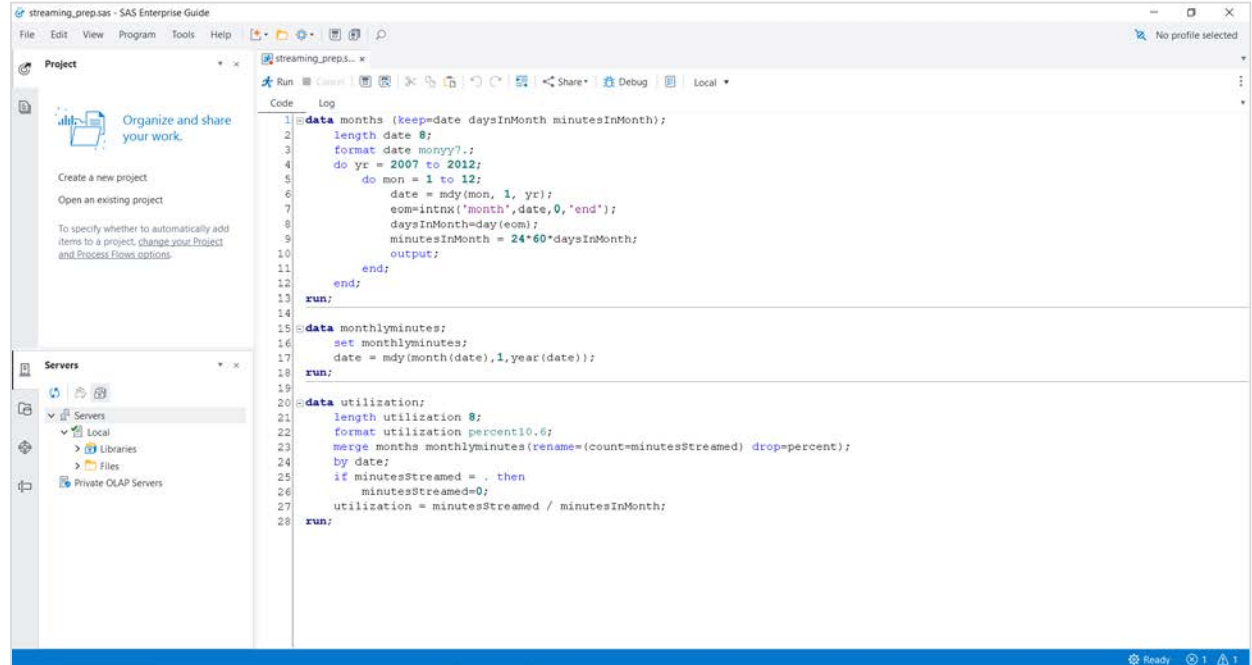
I love the idea of a projects and process flows, but I want to add files myself



No Project!



I just want to program – not interested in projects or process flows



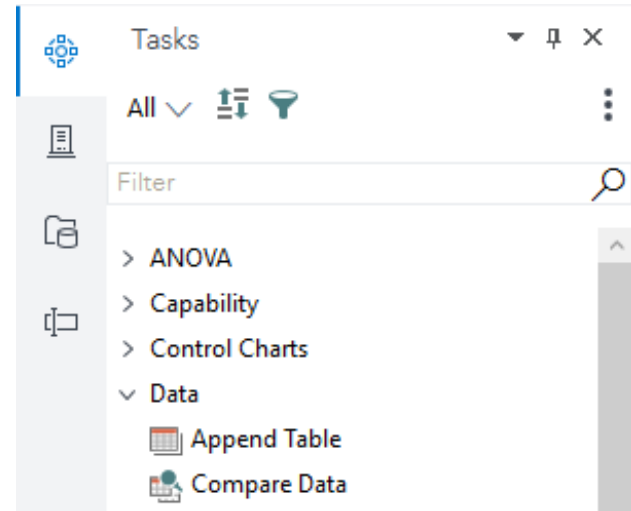
Items That Don't Require a Project

These items do not require a project. They can be opened and edited in a 'project-less' environment. We plan on adding more items, such as tasks, to the list in subsequent releases.

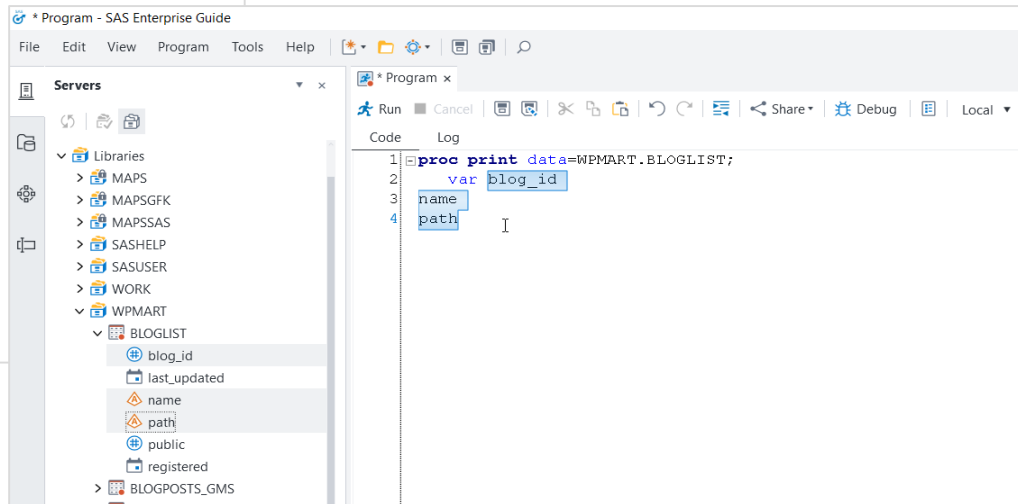
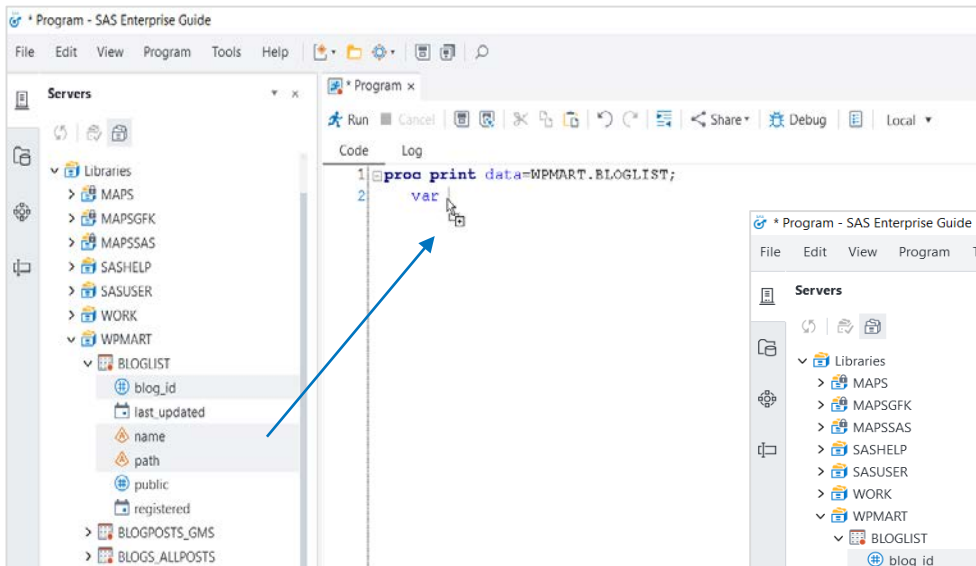
- Programs
- Data
- OLAP Cubes
- SAS Report Results
- SAS Visual Analytics Reports
- Logs

Working with Tasks

- Tasks now available from the Tasks pane
- Query Builder and Import automatic favorites
- Still need a project to use tasks
- SAS Studio tasks are available



Drag and Drop Data Set Names and Variables into a Program



What's Happening?

Submission Feedback

Before: Some status information

The screenshot shows the SAS Project Tree on the left, listing various tasks and data files. The Task Status window at the bottom right provides a detailed view of the current task's progress.

Task	Status
Program	Running PROC SORT...
One-Way Frequencies	Queued...
Import Data (NetflixInstantWatch...	Waiting on [One-Way Frequ...
streaming_prep	Waiting on [One-Way Frequ...

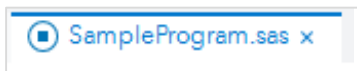
After: Knowing status at a glance

The screenshot shows the SAS Project window with a submission status table. The table lists the status of various tasks, including errors, warnings, and completion times.

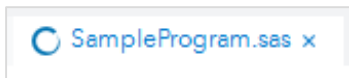
Name	Completed	Status	Info	Run Time	Submitted	Processed
Chart of ratings	12/4/2018 3:15:05 PM	Error	2.642s	12/4/2018 3:15:05 PM	Analyze	
scatter_days_vs_shipped	12/4/2018 3:15:07 PM	Successful	1.883s	12/4/2018 3:15:05 PM	Analyze	
Summary Statistics	12/4/2018 3:15:20 PM	Successful	12.692s	12/4/2018 3:15:17 PM	Analyze	
Movies we like		Running		12/4/2018 3:15:20 PM	Analyze	

Running Multiple Items without Locking the UI

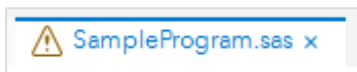
Status icons



Program is queued in the order of submission.



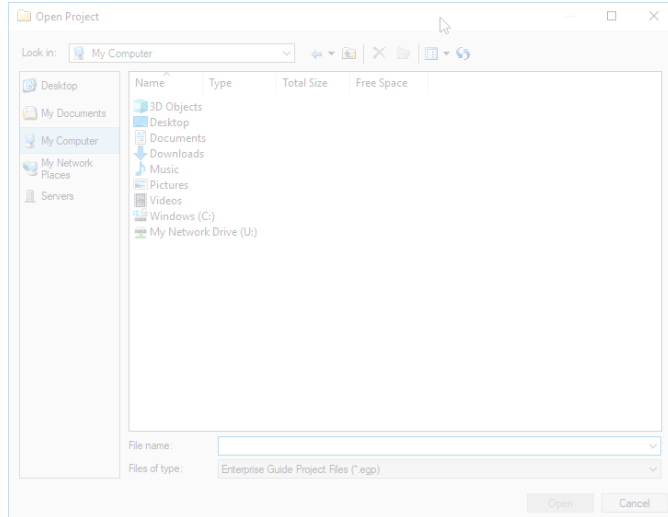
Program is in the process of being submitted.



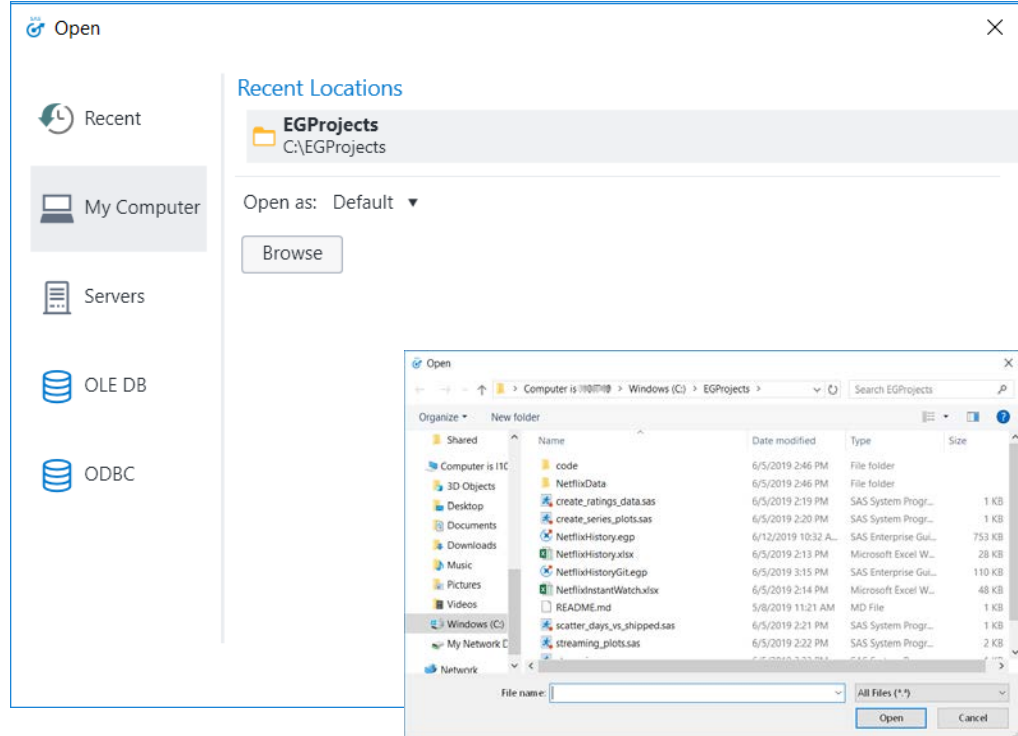
Status icons will show you, at a quick glance, if your program ran with errors or warnings.

Opening Files

Before



After



Search

- Search panel that can toggle on and off
- Search for items in a project and in the Open Files pane

The screenshot displays the SAS Enterprise Guide interface. The main workspace shows a project named 'NetflixBHistory' with a process flow diagram. The process flow starts with 'NetflixBHistory.xlsx', followed by 'Import NF History', 'Data Imported from Netflix', 'Calc Days and Ratings', 'TITLES DAY RATINGS', 'Chart of ratings', and 'HTML - Chart of ratings'. There are also branches for 'scatter_days_vs_shipped_sas', 'HTML - scatter_days_vs_shippe..', 'Movies we like', 'SAS Report - Movies we like', 'Like and Dislikes', 'Summary Statistics', and 'HTML - Summary Statistc..'. The left pane shows the project structure with folders like 'NetflixBHistory', 'Analyze Netflix Data', 'Import NF History', 'Data Imported from Netflix-Hist..', 'Calc Days and Ratings', 'RATINGS', 'Ratings Format', 'TITLES DAY RATINGS', 'Chart of ratings', 'Summary Statistics', 'Movies we like', 'Didn't like', and 'Prepare Time Series Data'. The bottom pane shows the 'Search' panel with a search bar containing 'Netflix' and a list of 26 results. The search results are organized into columns: 'Refine Results', 'Name', 'Type', and 'Process Flow'.

Refine Results	Name	Type	Process Flow
<input checked="" type="checkbox"/> All	Data Imported from NetflixBHistory.xlsx	Data	Analyze Netflix Data
<input type="checkbox"/> Program	Data Imported from NetflixInstantWatch.xlsx	Data	Analyze Netflix Streaming
<input type="checkbox"/> Task	Calc Days and Ratings	Query	Analyze Netflix Data
<input type="checkbox"/> Report	Clean Data	Query	Analyze Netflix Streaming
<input type="checkbox"/> Data	Import NF History	Task	Analyze Netflix Data
<input type="checkbox"/> Query	Import Data (NetflixBHistory.xlsx[Sheet1\$A16:E605])	Task	Analyze Netflix Streaming
<input type="checkbox"/> Stored process	Log	Log	Analyze Netflix Data
<input type="checkbox"/> Code	Log	Log	Analyze Netflix Data

Output Data Performance Options

- New options for controlling what output data to open automatically

When generating tables in a program, automatically open:

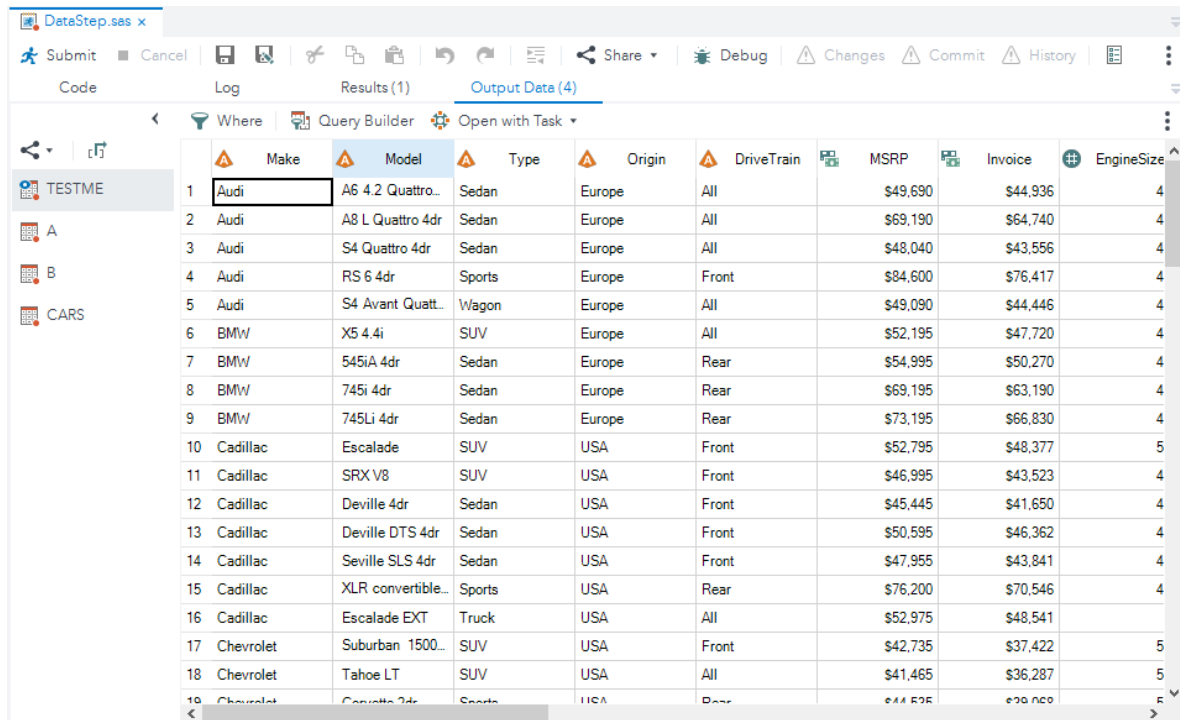
Last table ▼

☒ Unlock open data after inactivity (minutes):

3

☐ Unlock all open data before running code

☐ Automatically refresh open data tabs after running code



The screenshot shows the SAS DataStep interface. The 'Output Data (4)' tab is active, displaying a table of car data. The table has columns: Make, Model, Type, Origin, DriveTrain, MSRP, Invoice, and EngineSize. The data is sorted by Make and Model. The first row is Audi A6 4.2 Quattro, and the last row is Chevrolet Camaro 3dr. The table is displayed in a grid view with a toolbar at the top and a sidebar on the left.

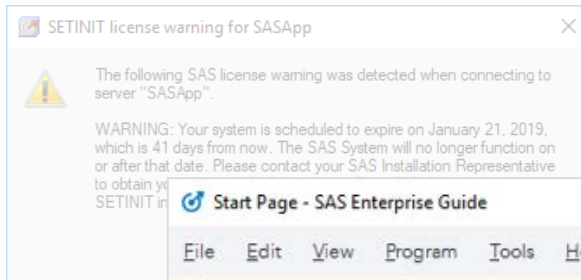
	Make	Model	Type	Origin	DriveTrain	MSRP	Invoice	EngineSize
1	Audi	A6 4.2 Quattro...	Sedan	Europe	All	\$49,690	\$44,936	4
2	Audi	A8 L Quattro 4dr	Sedan	Europe	All	\$69,190	\$64,740	4
3	Audi	S4 Quattro 4dr	Sedan	Europe	All	\$48,040	\$43,556	4
4	Audi	RS 6 4dr	Sports	Europe	Front	\$84,600	\$76,417	4
5	Audi	S4 Avant Quatt...	Wagon	Europe	All	\$49,090	\$44,446	4
6	BMW	X5 4.4i	SUV	Europe	All	\$52,195	\$47,720	4
7	BMW	545iA 4dr	Sedan	Europe	Rear	\$54,995	\$50,270	4
8	BMW	745i 4dr	Sedan	Europe	Rear	\$69,195	\$63,190	4
9	BMW	745Li 4dr	Sedan	Europe	Rear	\$73,195	\$66,830	4
10	Cadillac	Escalade	SUV	USA	Front	\$52,795	\$48,377	5
11	Cadillac	SRX V8	SUV	USA	Front	\$46,995	\$43,523	4
12	Cadillac	Deville 4dr	Sedan	USA	Front	\$45,445	\$41,650	4
13	Cadillac	Deville DTS 4dr	Sedan	USA	Front	\$50,595	\$46,362	4
14	Cadillac	Seville SLS 4dr	Sedan	USA	Front	\$47,955	\$43,841	4
15	Cadillac	XLR convertible...	Sports	USA	Rear	\$76,200	\$70,546	4
16	Cadillac	Escalade EXT	Truck	USA	All	\$52,975	\$48,541	4
17	Chevrolet	Suburban 1500...	SUV	USA	Front	\$42,735	\$37,422	5
18	Chevrolet	Tahoe LT	SUV	USA	All	\$41,465	\$36,287	5
19	Chevrolet	Camaro 3dr	Sports	USA	Rear	\$44,535	\$39,060	5

Notifications

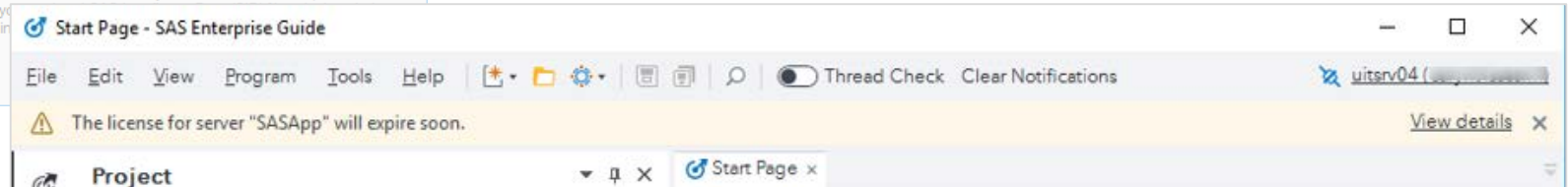
What do you really need to know?

- Get out of your way so you can continue working
- Better messaging

Before

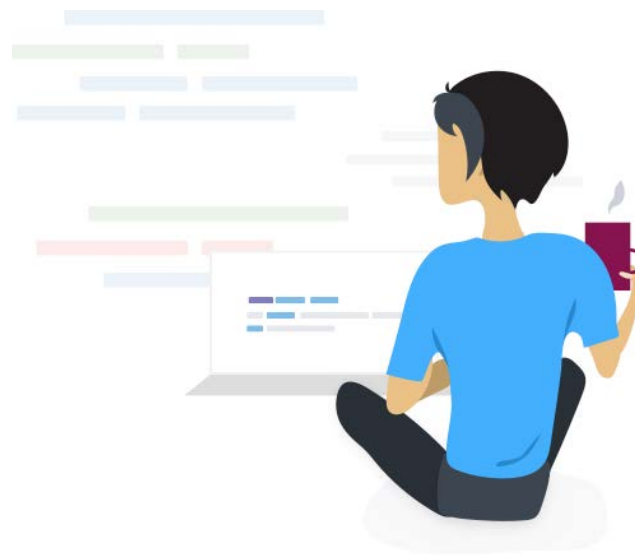


After



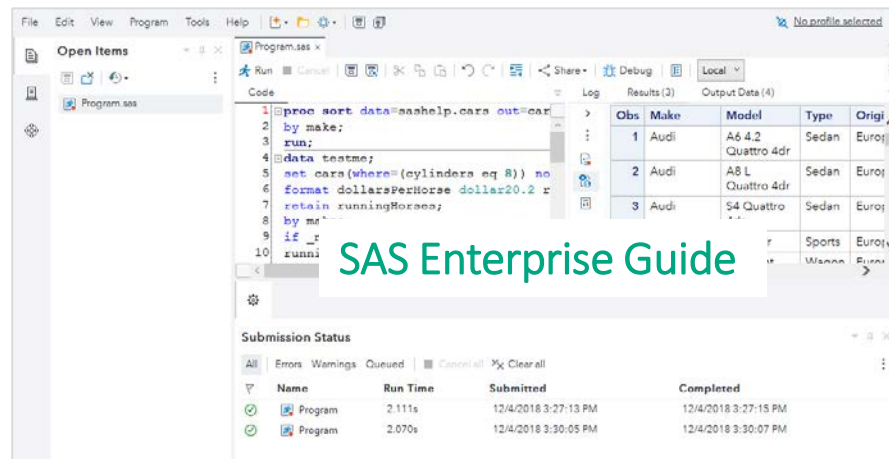
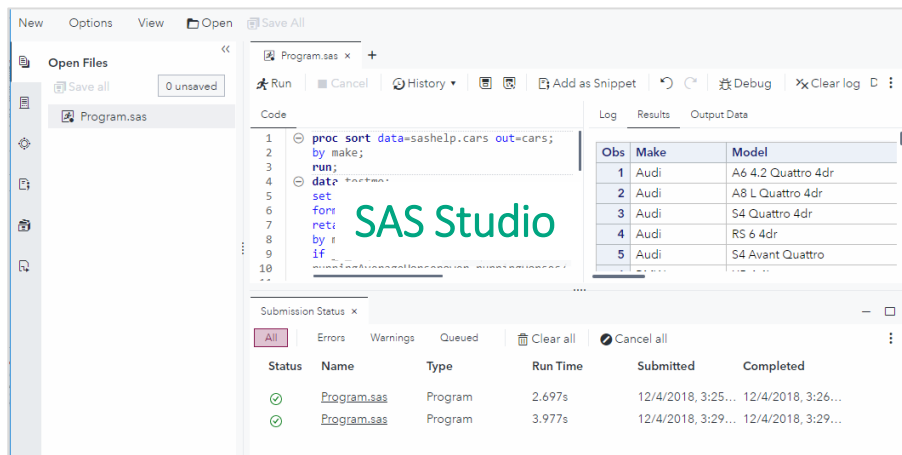
Behind the Scenes

- Always responsive
 - Gracefully handle server unresponsiveness
- More responsible with open data
 - Not locking as long
 - Not opening when unnecessary
- Improved handling of large project logs
- Product help is now online!



SAS Enterprise Guide and SAS Studio

Future Forward



SAS Enterprise Guide and SAS Studio

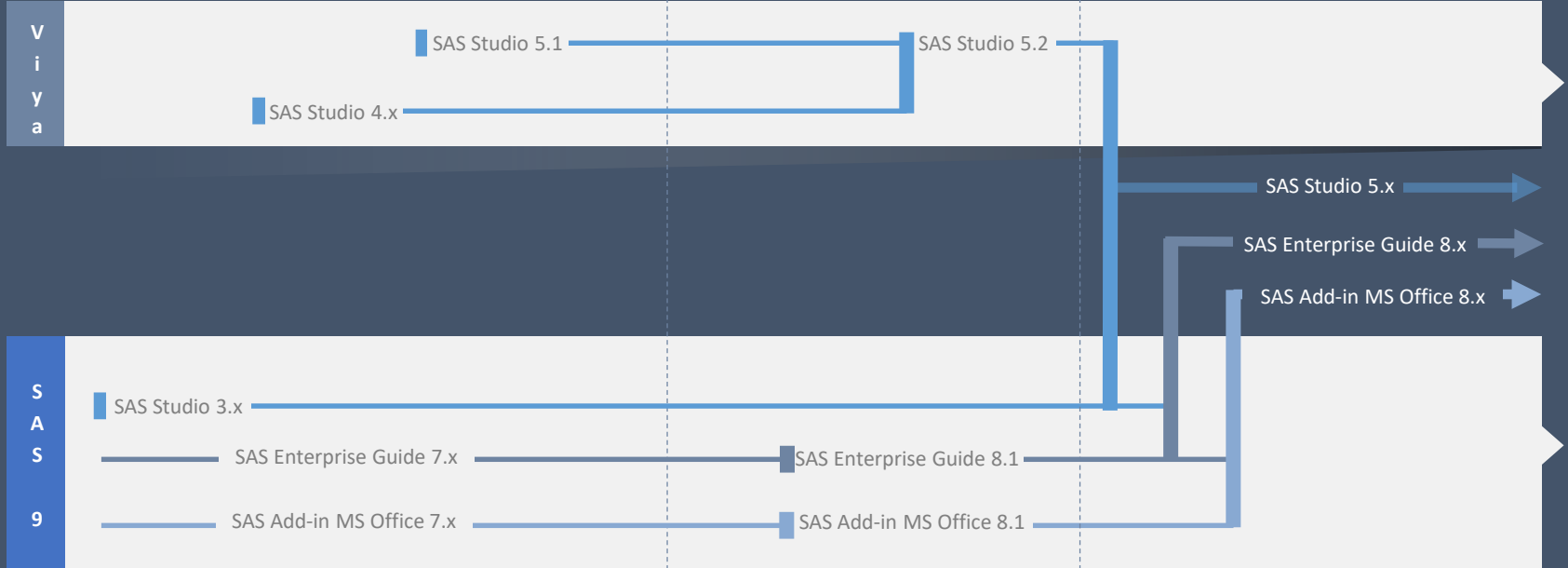
Work Anywhere



2014 - 2018

2019

2020



Join the Discussion

Tell us what you like, don't like, what more you need

On SAS Communities:

- [SAS Enterprise Guide community](#) – find it under Business Intelligence
- [SASware ballot ideas](#)





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