



Next generation collaboration: using tasks and snippets in SAS Studio



Fatima Kassim, 's-Hertogenbosch, The Netherlands

SAS Studio – Homepage



The screenshot shows the SAS Studio interface with several key areas highlighted by red boxes and a menu open:

- Navigation Pane:** Located on the left, it shows a tree view under 'Server Files and Folders' with sub-items: 'Folder Shortcuts' and 'Files (p:\)'. At the bottom, there are links for 'Tasks and Utilities', 'Snippets', 'Libraries', and 'File Shortcuts'.
- Banner Area:** Located at the top right of the main workspace, it contains the text 'SAS Programmer' and a 'Sign Out' link.
- Work Area:** The central area for editing code, currently showing a blank editor with a 'Line #' input field and a toolbar.
- Menu:** A context menu is open over the Work Area, listing options: 'Edit Autoexec File', 'View' (selected), 'Preferences', 'Tools', 'Background Job Status', and 'Reset SAS Session (F9)'. The 'View' sub-menu is expanded, showing checked items: 'Server Files and Folders', 'Tasks and Utilities', 'Snippets', 'Libraries', and 'File Shortcuts'.

The bottom status bar indicates 'Messages' and 'User: Fatima Kassim'.

Snippets



- Pieces of SAS code
 - 1 line or several lines of code
 - Comment/statements/steps/macros etc.
 - Use in existing program
 - Basis of new program
- Quickly insert Snippets
 - Repetitive code, e.g. proc print
 - Add to favourites
- Numerous standard code Snippets present
- Create custom Snippets

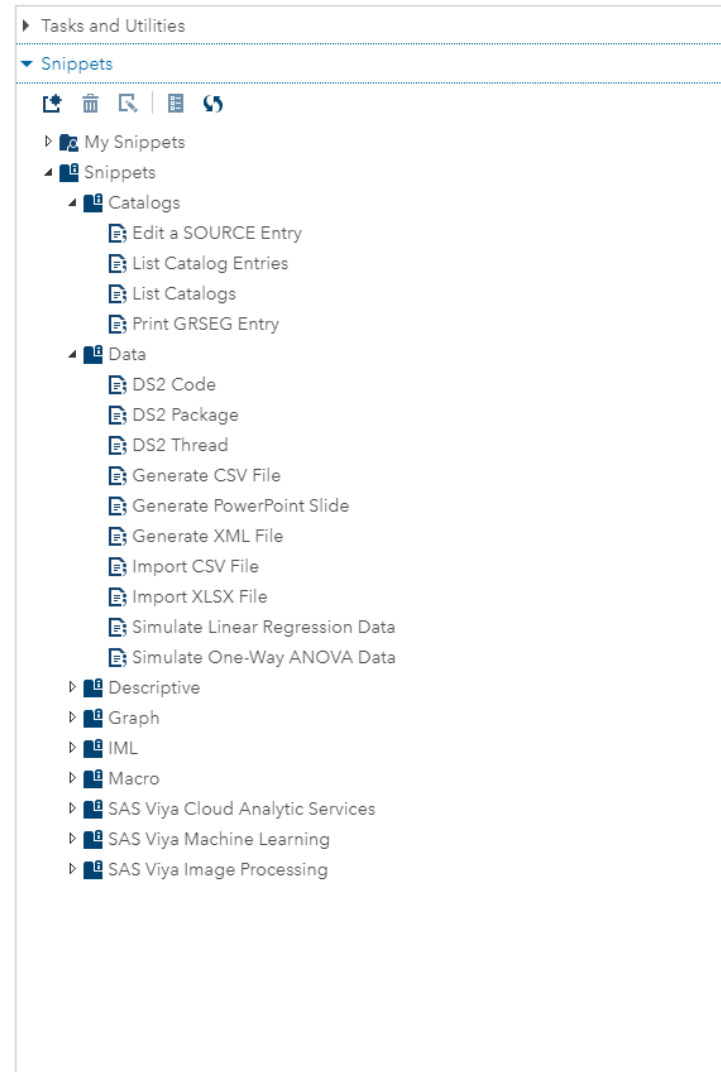
```
1 /** Import an XLSX file. */
2
3 PROC IMPORT DATAFILE=<Your XLSX File>"
4             OUT=WORK.MYEXCEL
5             DBMS=XLSX
6             REPLACE;
7 RUN;
8
9 /** Print the results. */
10
11 PROC PRINT DATA=WORK.MYEXCEL; RUN;
```

```
1 /* Stream a CSV representation of SASHELP.CARS directly to the user's browser. */
2
3 proc export data=sashelp.cars
4             outfile=_dataout
5             dbms=csv replace;
6 run;
7
8 %let _DATAOUT_MIME_TYPE=text/csv;
9 %let _DATAOUT_NAME=cars.csv;
```

Standard Snippet



- Use simple macros
- Generating files
 - Even PowerPoint Slide
- Importing files
- Simulate Data
- Viya snippets
 - Must have access to SAS Viya





Using a standard Snippet

- Standard
 - Edit code
 - Replace code highlighted in “purple” (text)
- Importing an Excel file
 - Standard Snippet: Import XLSX File
 - SAS Studio indicates **where** to adjust the code and **how**

```
CODE LOG RESULTS
1 /** Import an XLSX file. */
2 PROC IMPORT DATAFILE="<Your XLSX File>" OUT=WORK.MYEXCEL DBMS=XLSX REPLACE;
3 RUN;
4
5 /** Print the results. */
6 PROC PRINT DATA=WORK.MYEXCEL;
7 RUN;
```



Creating a custom Snippet

- In SAS program
- Select lines of code
- Right click and choose Add to 'My Snippets'
- Name snippet & Save
- Snippets Section in the navigation pane
 - Appears under 'My Snippets'

Add to My Snippets [X]

Name:

Location:

Run all or selected code (F3)

Undo

Redo

Cut

Copy

Paste

Go to Line

Format Code

Add to My Snippets

Go to Toolbar

Go to Log

Syntax Help

Tasks

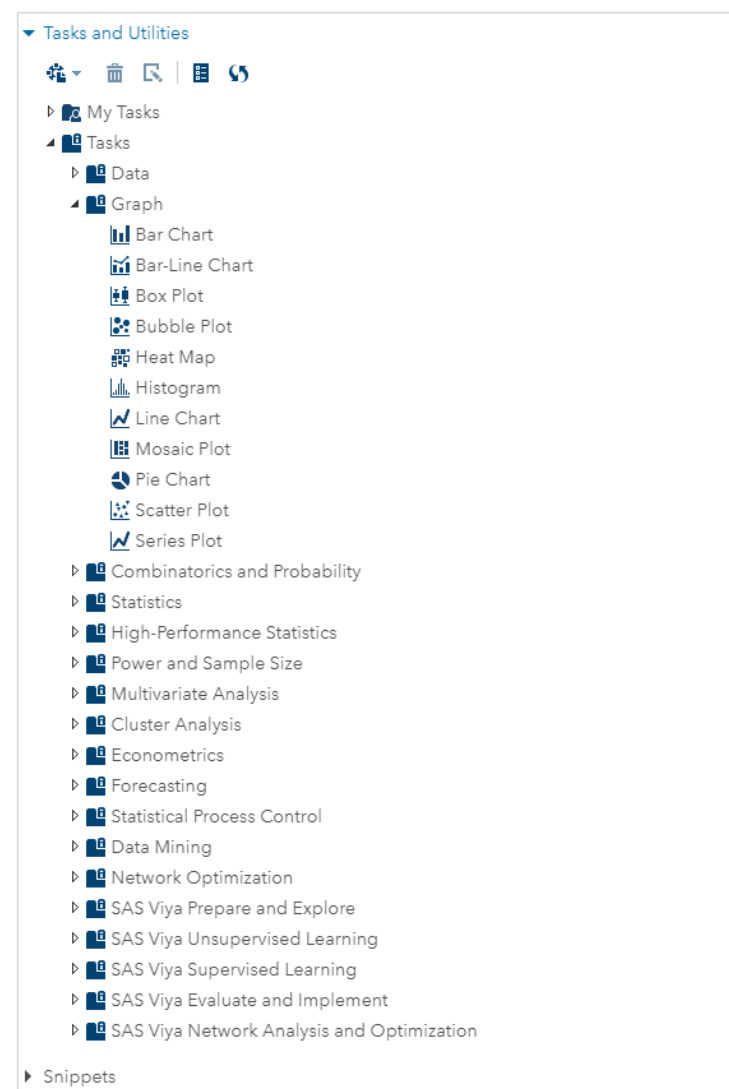


- Tasks are 'applications' that provide a point-and-click interface
 - No need to write SAS code
 - Choose a table and select variable(s)
 - Expand on the task in the options section
 - Find more information about the procedure in the information section
- Tasks generate SAS code
 - Copy and save in a program
- Equipped with standard tasks
 - Edit a copy of the built-in tasks for customization
- Create custom Task
 - Creating your own Task interface
 - Customise a standard Task

Standard Task



- Complex statistical analyses
 - Linear regression
 - Distribution analyses
- Simple SAS system procedures
 - Listings
 - Transposing
- Create graphs/plots
 - Quick and easy figures
- Viya Tasks
 - Require access to Viya for use



Task layout



- View

- Default: split view
- Settings
- Code/Results

The screenshot displays the SAS Studio interface with the 'Filter Data' task selected. The left pane shows the 'DATA' tab with a filter rule for 'SASHELP.BWEIGHT'. The filter rule is named '*Variable 1: (1 item)' and is set to 'Less than' with a value type of 'Enter a value'. The right pane shows the 'CODE' tab with the following SAS code:

```
1 /*
2 *
3 * Code cannot be generated because the following
4 * options are not set:
5 *
6 * Value:
7 *
8 *
9 */
10
11 /*
12 *
13 * Code cannot be generated because the following
14 * roles are not set:
15 *
16 * Variable 1: (minimum: 1)
17 *
18 *
19 */
20
21
```

Using a standard Task



*Histogram

Settings Code/Results **Split**

DATA APPEARANCE INFORMATION

DATA

SASHELP.CLASSFIT

Filter: (none)

ROLES

*Analysis variable: (1 item)

Column

ADDITIONAL ROLES

Group analysis by: (1 item)

Column

Weight: (1 item)

Column

CODE LOG RESULTS

```
1 /*
2 *
3 * Code cannot be generated because the following
4 * roles are not set:
5 *
6 * Analysis variable: (minimum: 1)
7 *
8 *
9 */
10
11
```

Settings Code/Results **Split**

DATA APPEARANCE **INFORMATION**

PROPERTIES

Name: Histogram

Description: Creates a frequency distribution of a numeric variable.

Category: Graph

Procedures: SGPlot

Version: 3.7

RESOURCES

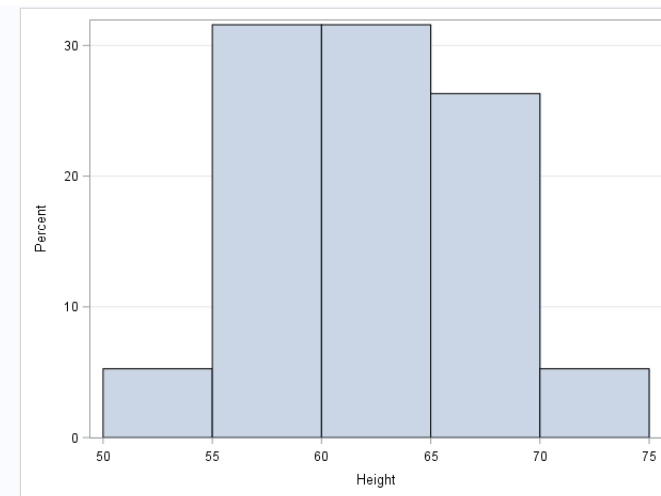
[SAS Studio Task Reference Guide](#)

[The SGPLOT Procedure](#)

[SAS Tutorials](#)

CODE LOG **RESULTS**

Table of Contents



Use the code generated



Settings **Code/Results** Split

CODE LOG RESULTS

Settings Code/Results Split

DATA APPEARANCE INFORMATION

DATA

SASHELP.CLASSFIT

Filter: (none)

ROLES

*Analysis variable: (1 item)

Height

Scale: Percent (default)

ADDITIONAL ROLES

Group analysis by: (1 item)

Sex

Weight: (1 item)

Column

CODE LOG RESULTS

Line #

```
1 /*
2 *
3 * Task code generated by SAS Studio 3.7
4 *
5 * Generated on '2016-08-18 10:10:10'
6 * Generated by 'SAS'
7 * Generated on 'SASHELP.CLASSFIT'
8 * Generated on 'SASHELP.CLASSFIT'
9 * Generated on 'SASHELP.CLASSFIT'
10 * Generated on 'SASHELP.CLASSFIT'
11 * Generated on 'SASHELP.CLASSFIT'
12 *
13 */
14
15 ods graphics / reset width=6.4in height=4.8in imagemap;
16
17 proc sort data=SASHELP.CLASSFIT out=_HistogramTaskData;
18     by Sex;
19 run;
20
21 proc sgplot data=_HistogramTaskData;
22     by Sex;
23     histogram Height /;
24     yaxis grid;
25 run;
26
27 ods graphics / reset;
28
29 proc datasets library=WORK noprint;
30     delete _HistogramTaskData;
31 run;
```

DATA APPEARANCE INFORMATION

DENSITY CURVES

BINS

☐ Specify number of bins

☐ Set color

Color transparency: 0% (default)

Details

X AXIS

☐ Show tick marks at bin midpoints

☐ Specify minimum value

☐ Specify maximum value

☐ Show grid lines

Display label:

Default label

Y AXIS

TITLE AND FOOTNOTE

Title:

*Font size (default: 14 pt): 14

Footnote:

*Font size (default: 12 pt): 12

GRAPH SIZE



Creating a custom Task

- Common task model (.CTM) → <TaskName>.CTK
- New Task
 - 'Design' the interface → Required or collapsible etc.
 - XML & Apache velocity template language
 - Online task set up guides to get your started
- Sample Task
 - Shows available controls
- Advanced Task
 - Shows more complex functionalities
 - Dependencies
 - Mixed Effects Builder
 - Data Linking
 - Return Values

Custom new Task



Line #

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <Task schemaVersion="5.2" runNLS="never"> 1
3   2 <Registration>
4     <Name>New Task</Name>
5     <Description>This is a blank task</Description>
6     <GUID>726B2B12-4542-4200-96F4-960C645D767F</GUID>
7     <Procedures>TBD</Procedures>
8     <Version>3.7</Version>
9     <Links>
10      <Link href="http://documentation.sas.com/?softwareId=STUDIOMID&softwareVersion=3.7&softwareContextId=tasks&requestor=inapp">SAS Studio Task Reference Guide</Link>
11    </Links>
12  </Registration>
13  3 <Metadata>
14    <DataSources>
15    </DataSources>
16    <Options>
17    </Options>
18  </Metadata>
19  4 <UI>
20    </UI>
21  5 <CodeTemplate>
22    <![CDATA[
23    proc print data=sashelp.cars;run;
24    ]]>
25  </CodeTemplate>
26 </Task>
```

New Task x New Task 1 x

Settings Code/Results Split

INFORMATION

▼ PROPERTIES

Name: New Task
Description: This is a blank task
Category: None
Procedures: TBD
Version: 3.7

▼ RESOURCES

[SAS Studio Task Reference Guide](#)

CODE LOG RESULTS

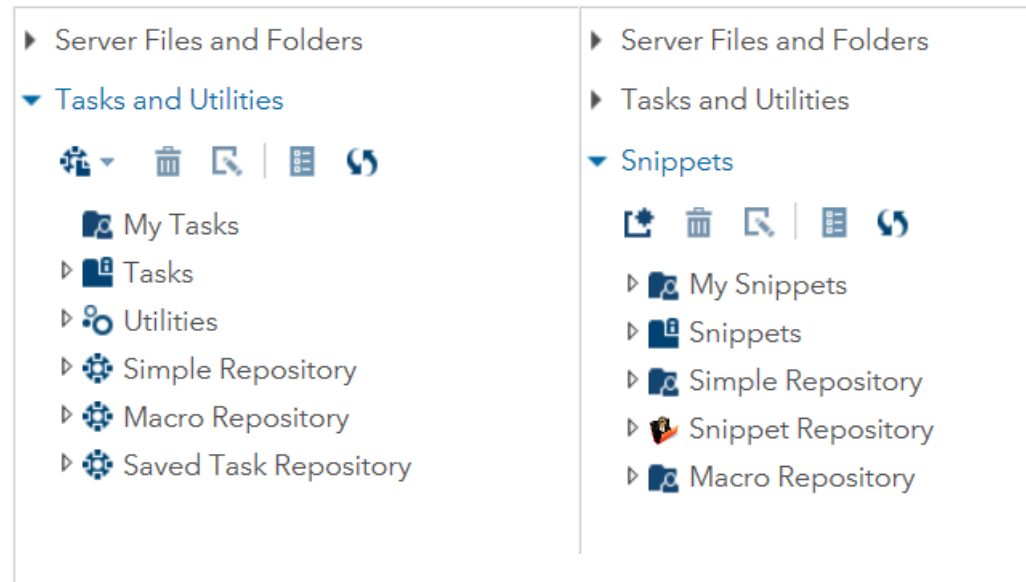
Line #

```
1 /*
2 *
3 * Task code generated by SAS Studio 3.7
4 *
5 * Generated on 04/12/2016 17:44
6 * Generated by SAS
7 * Generated on server "04/12/2016 17:44" on "04/12/2016 17:44"
8 * Generated on SAS platform "04/12/2016 17:44"
9 * Generated on SAS version "3.7.4"
10 * Generated on Windows "04/12/2016 17:44" (Windows or Unix binary used)
11 * Generated on web client "http://vnc.sas.internat.sas.com/sasweblog"
12 *
13 */
14
15 proc print data=sashelp.cars;
16 run;
```

Repository



- Email
- Use a repository → shared server



Thank you for your time!



OCS Life Sciences

Fatima Kassim

fatima.kassim@ocs-consulting.com

office: +31 (0)73 523 6000

www.ocs-lifesciences.com



Visit
Ruwekampweg 2G
5222 AT
's-Hertogenbosch
The Netherlands

Mail
Postbus 3434
5203 DK
's-Hertogenbosch
The Netherlands

Resources



- SAS Products & Solutions – SAS Studio
 - <http://support.sas.com/software/products/sas-studio/>
- SAS Video Tutorials
 - <http://video.sas.com/category/videos/sas-studio>
- Help in SAS Studio
 - SAS Studio Help
 - Keyboard Shortcuts
 - About SAS Studio