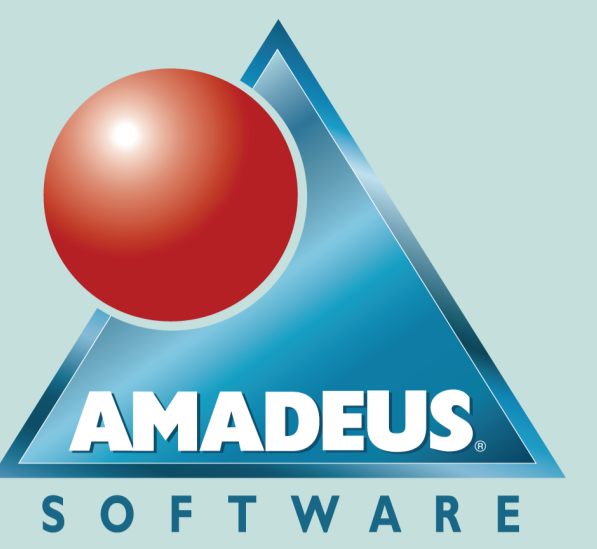# 10 Things I Love about SAS Studio

SAS Studio is the future. But its not new. In fact, the first version of SAS Studio was made available to the public in 2014. Any SAS Office Analytics environment or SAS Viya environment should have a version of SAS Studio available to be deployed and used. Are you a massive fan of SAS Enterprise Guide? Are you a Display Manager user who finds SAS Enterprise Guide too complicated? SAS Studio is a fantastic alternative tool encouraging openness and productivity, and there are many reasons why it should be chosen over other SAS coding editors. Here are just 10 of the reasons why you should choose SAS Studio.

#1 Web Based Client Interface

SAS Studio is accessible from your favorite Web Browser across all your devices. Access via a URL, there is no longer a requirement to install SAS on each laptop.

IT will love it! All users are on the same version, and updates will be applied for everyone at once.

#2 Great Features for New SAS Coders

As a new SAS coder it can be quite daunting using code to create the exact table structure that you want for the first time. SAS Studio has some useful features for helping coders to quickly query and profile their data.

1. View the table properties.

Discover the tables metadata including the SAS or CAS Library and column properties.

2. Select to view column names or column labels on the drop-down list.

3. Tick the columns that you want to keep in the new data set.

4. Display the code which was used to create the table.

The users can then learn how to make the process repeatable via SQL and other SAS procedures.

```
PROC SQL;
CREATE TABLE WORK.query AS
SELECT Make , Model , Horsepower FROM SASHELP.CARS;
RUN;
QUIT;

PROC DATASETS NOLIST NODETAILS;
CONTENTS DATA=WORK.query OUT=WORK.details;
RUN;

PROC PRINT DATA=WORK.details;
RUN;
```

5. Filter the data.

Hint: There's some great information on how to do this under help.

#3 Interactive Debugging

The data step debugger can be activated using the icon: ⏵ Debug

Once active, a green line should appear to the left of the code window to show you which areas of the code can make use of the debugger utility.

```
7    %* Only keep the top 10 and work out how much discount they are giving.;
8  data top_10_city_mpg;
9      set carsort;
10     perc_discount = 1 - (invoice / msrp);
11     if _n_ <= 11;
12     format perc_discount percent8.;
13     label perc_discount = "Percentage Discount";
14  run;
```

Once active, users can step through their data step line by line to identify how each observation is calculated in the resulting data.

This can be great for troubleshooting unexpected outputs as it provides more information than the standard SAS logging.

#4 Python Integration

Do you have Python programmers in your clinical reporting team?

Within SAS Viya, SAS Studio allows users to choose whether they would like to code in Python or SAS coding. The Python code editor provides key word colourisation and SASpy allows users to perform SAS procedures through Python code.

SAS Studio allows both Python and SAS users to collaborate in a single interface.

To download a paper on connecting SAS and Python scan here:

#5 Continue where you left off

One of the simplest features of SAS Studio, but also arguably one of the best, is the ability to continue where you left off. When you attempt to access SAS Studio next time the default action is to resume the previous SAS session.

So no more worries about losing your progress if your laptop crashes!

#6 Code snippets

Have you ever started to write a new SAS program only to realise that you have already written something similar before?

Code snippets allow you to save sections of code which you use regularly so that you can just drag-and-drop them into your new programs. There are also some snippets shipped within SAS Studio which you can harness to help you get started with certain processes including:

DS2 code	Importing data	Export different file types
Prepare plots and charts	Machine Learning	CAS specific functionality
Macro functions	Image processing	Prepare plots and charts

From version 3.8 you can use a SAS Studio repository to share snippets with other SAS users allowing you to build a library of snippets with your programming team.

#7 Export Results

By default the results of your SAS code are displayed within the browser. You can simply download the results, log files or code with the click of a button in a format of your choice including; PDF, RTF, CSV or XML files. Great for sharing with stakeholders, or for publications.

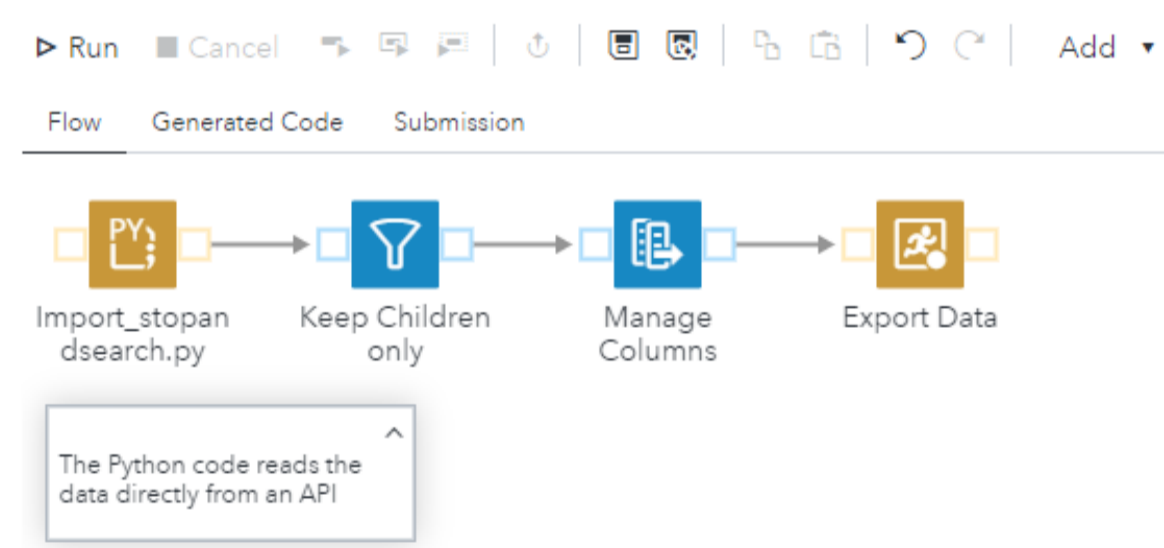Stop and Search Locations by Gender
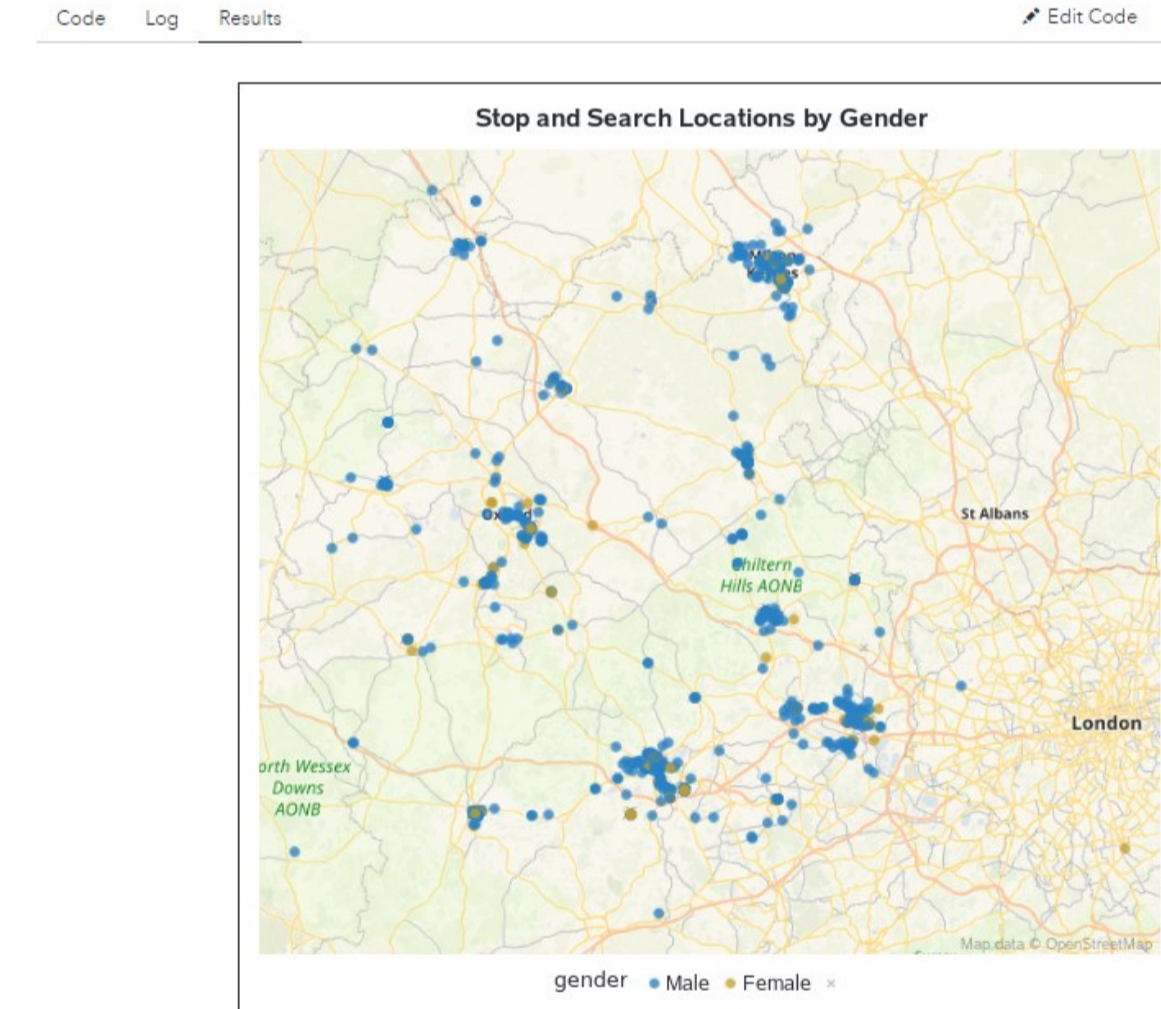
Within Viya 4 there is also the ability to send the results by email to another user.

This includes the results in HTML5, RTF and PDF format as well as the related code and log files.

#8 Flow Designer

Using the Flow Designer within SAS Studio, you can put together a data flow using the point-and-click interface.

The flows can be simple, or complex, containing either ETL tasks or code in the form of SAS or Python programs. You can add notes to the flow diagram to add narrative to the data flow and help other users to understand the process.

There is also the ability to create multiple swimlanes to run flows in parallel, run based on dependencies and even run in different orders depending on your requirements.

When you are done with the flow creation you can hit "Generated Code" to see the detail about what has been submitted.

Scheduling Flows

In addition to all of this, you can schedule the job directly from the SAS Studio interface.

Within SAS Viya 4, time triggers are available to enable you to schedule the code to run at a time that suits you best.

#9 Easily Import Data

The Import Data Task allows you to select a file, or drag and drop directly into the interface.

SAS Studio can do all of the hard work for you, generating the code to import the file based on the file extension. You can customise the output for what you need or leave the default settings and let SAS decide on what's best.

You can open the file within SAS Studio as text to understand the structure.

Finally view the code which was used to perform the import:

```
FILENAME REFFILE DISK "/export/crush-viya/data/Pets.txt";

PROC IMPORT DATAFILE=REFFILE
    DBMS=DLM
    OUT=WORK.IMPORT1;
    DELIMITER='09'x;
    GETNAMES=YES;
RUN;
```

#10 Custom Steps

Within SAS Viya, SAS Studio allows advanced users to create custom steps. Custom steps can be created to hide the complexity of tasks from less advanced users.

Options are available to add check boxes, drop-down lists, add columns and much more.

The steps can be quite complex, and advanced users can even choose to edit the prompt code if they would like more control of the code.

The steps can then be added to process flows where users can use point-and click to choose the options which are required for the node.

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