

SAS Studio comes pre-loaded with some cool features. Some that are helpful for beginner programmers, and some for more experienced coders.

Tasks are like 'wizards' that help you create code for common tasks, without needing to know SAS syntax..

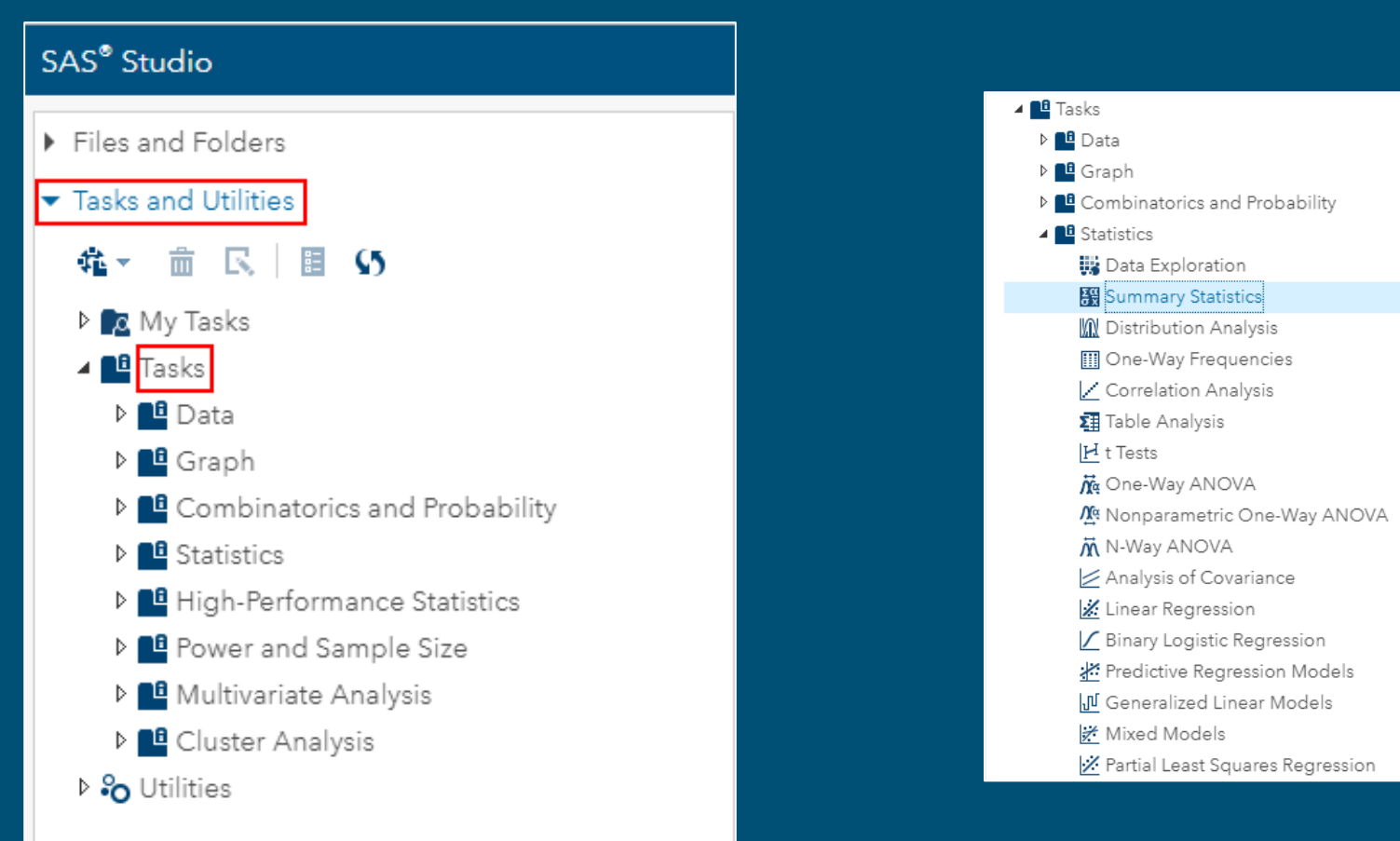
Snippets are short sections of commonly used code that can be dropped into a program under development.

We'll also look at some other interesting and useful features.

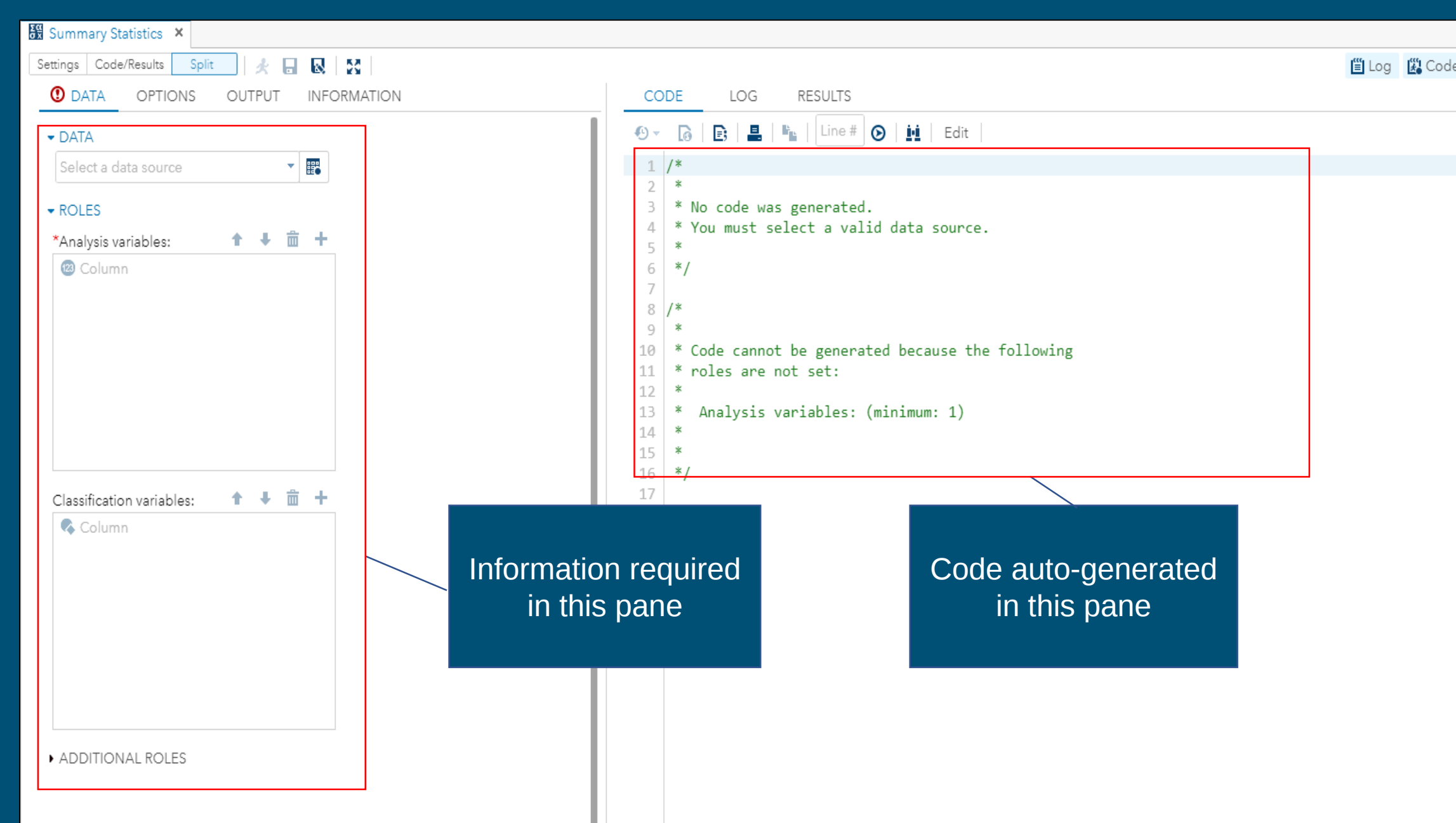
Tasks

Let's assume we need to create summary statistics for some data but aren't sure of which Proc to use or the syntax. We can use a Task that comes with SAS Studio to help us.

1. In the left-hand pane of SAS Studio, expand Tasks and Utilities, and then expand Tasks - you'll see the different Task categories
2. Expand 'Statistics' and double-click on 'Summary Statistics'



3. The work area changes – the pane on the left is prompting us for information, the pane on the right shows us the auto-generated code



4. The source data is coming from SASHELP.HEART
The Analysis variable is AgeAtDeath
The Classification variable is Smoking_Status
5. The code auto-generates as the roles are assigned

```
15 ods noproctitle;
16 ods graphics / imagemap=on;
17
18 proc means data=SASHELP.HEART chartype mean std min max n vardef=df;
19 var AgeAtDeath;
20 class Smoking_Status;
21 run;
```

6. We can add an extra role, to group our results by sex
7. Again, the code updates automatically. This time a sort is added, and then the temporary dataset is removed.

```
14
15 ods noproctitle;
16 ods graphics / imagemap=on;
17
18 proc sort data=SASHELP.HEART out=WORK.TempSorted2236;
19 by Sex;
20 run;
21
22 proc means data=WORK.TempSorted2236 chartype mean std min max n vardef=df;
23 var AgeAtDeath;
24 class Smoking_Status;
25 by Sex;
26 run;
27
28 proc datasets library=WORK noprint;
29 delete TempSorted2236;
30 run;
```

8. Running the code generates the following report

Sex=Female						
Smoking Status	N Obs	Mean	Std Dev	Minimum	Maximum	N
Heavy (10-25)	339	67.0373832	11.7889951	38.0000000	92.0000000	107
Light (1-5)	422	70.3787894	10.0841514	38.0000000	91.0000000	111
Moderate (6-15)	340	67.0576923	10.2851920	43.0000000	88.0000000	104
Non-smoker	1082	73.9495269	10.5852587	38.0000000	93.0000000	838
Very Heavy (> 25)	73	67.1612903	11.0369159	42.0000000	83.0000000	21

Sex=Male						
Smoking Status	N Obs	Mean	Std Dev	Minimum	Maximum	N
Heavy (10-25)	707	68.3392887	9.9891488	38.0000000	91.0000000	339
Light (1-5)	187	70.7368421	9.7821179	46.0000000	90.0000000	78
Moderate (6-15)	238	70.0554459	9.9598211	37.0000000	90.0000000	109
Non-smoker	819	73.4765983	9.0338074	46.0000000	91.0000000	355
Very Heavy (> 25)	368	65.1458311	10.6279659	38.0000000	88.0000000	208

9. Lastly, you can save the generated code as a SAS program.

It's also possible to create your own tasks – this could be a way to create a front end for departmental standard macros.
(If you're interested, try this guide from SAS:
<http://documentation.sas.com/api/docsets/webeditortasks/3.7/content/webeditortasks.pdf?locale=en>)

Snippets

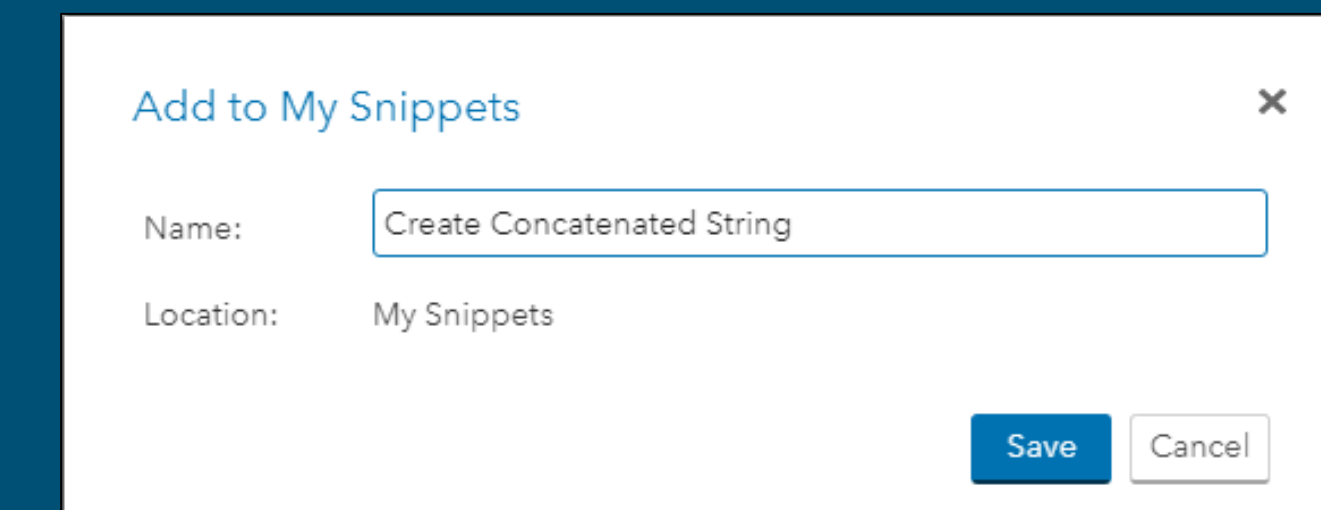
Snippets are pre-written sets of SAS logic stored by category in individual snippets. They cover things like generating different types of graph, importing and exporting data to common file types and basic macro syntax. However, we feel the real benefit comes from the ability to create your own snippets for sections of code that YOU commonly use.

For example, we've recently needed to concatenate medical history terms and con med terms into a single string, separated by commas and then with a final 'and'. Once the logic was nailed down we could save it as a Snippet and then re-use elsewhere.

1. Create a snippet by selecting code in your Program Editor
2. Then click on 'Add to My Snippets'

```
1065 set cmtindterm;
1066 cnt_com=count(cmtindterm,',');
1067 cnt_and=count(cmtindterm,'and');
1068 if cnt_com=1 and cnt_and=1 then cmtindterm=trim(cmtindterm) and ',' and 'and';
1069 if index(cmtindterm,'for')=0 then cmtindterm=trim(cmtindterm) for "||lowcase(cmtindc);
1070 run;
1071
1072 data cmtext;
1073 set cmtindterm;
1074 by usubjid aseq aseqdc cmtind cmtcls cmtcm cmtstdtc;
1075 length cmtext_alt_f $8000;
1076 retain cmtext_alt_f;
1077 if first.usubjid then cmtext_alt_f="";
1078 if first.aeseq then cmtext_alt_f=cmtindterm;
1079 else if not last.aeseq then cmtext_alt_f=left(trim(cmtext_alt_f))||', '||left(trim(lowcase(cmtindterm)));
1080 else cmtext_alt_f=left(trim(cmtext_alt_f))||', and '||left(trim(lowcase(cmtindterm)));
1081 if last.aeseq then output;
1082 run;
```

3. Assign a name and then save



4. You may wish to edit your Snippet to make it more generic
Navigate to your Snippet under 'My Snippets', right-click and choose 'Edit'
5. The Snippet will open and you can modify and save as needed

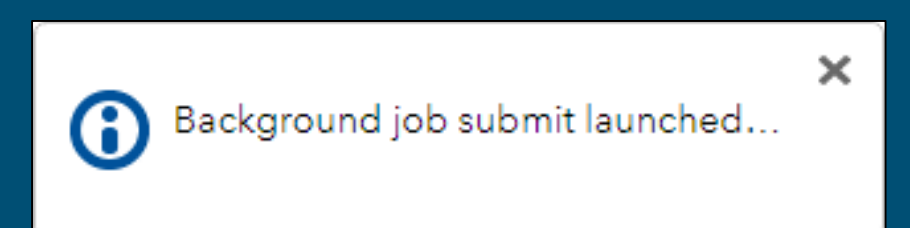
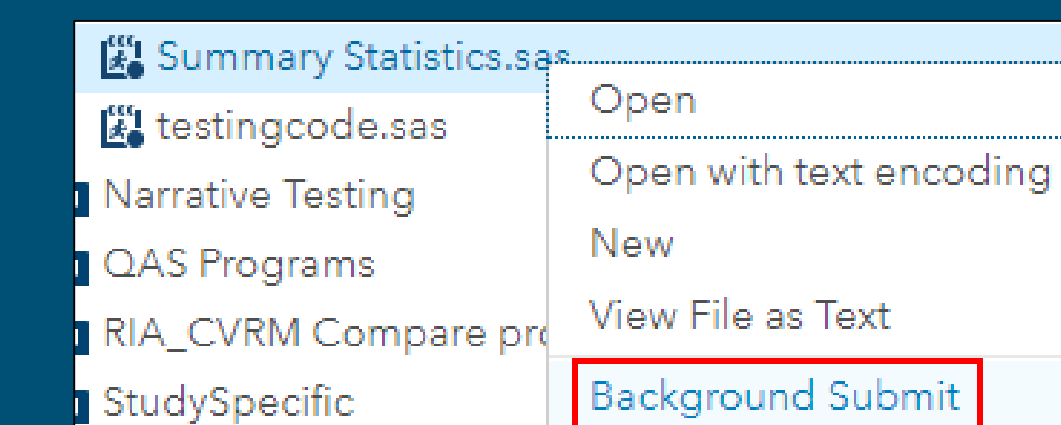
```
1 data <outds>;
2 set <indset>;
3 by <byvars>;
4 length <textvar> $8000;
5 retain <textvar>;
6 if first.usubjid then <textvar>="";
7 if first.aeseq then <textvar>=<sourcevar>;
8 else if not last.aeseq then <textvar>=left(trim(<textvar>))||', '||left(trim(lowcase(<sourcevar>)));
9 else <textvar>=left(trim(<textvar>))||', and '||left(trim(lowcase(<sourcevar>)));
10 if last.aeseq then output;
11 run;
```

To use a Snippet, simply place your cursor where you want the snippet to go and then double-click on the Snippet or drag and drop it into your program.
(NOTE – you could use the Find and Replace to quickly replace '<textvar>' etc)

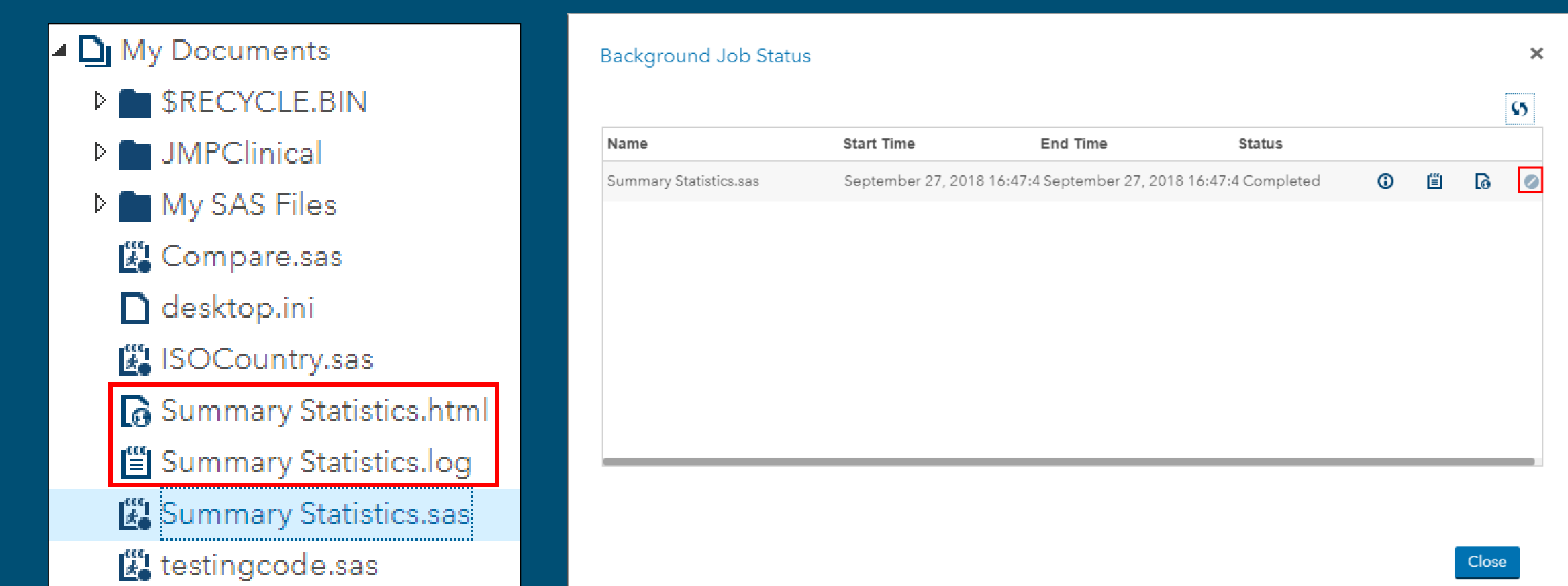
Other Cool Stuff

Background Submit

You can submit jobs to run in batch mode if you wish – this can help as it means that long running jobs won't tie up your SAS session.
Right click on a program and select 'Background Submit' – you'll see a message confirming that the program has been submitted.



The output and log are automatically saved in the program location.
It's also possible to check the status of a running job and terminate if necessary



Session persistence

If you sign out or otherwise exit SAS Studio with program tabs open, they will be open again when you next sign-in. Also, the autosave feature means that SAS Studio will prompt you if the autosave version is newer than the last formal save – so you won't lose your work!

Final Tip – viewing multiple datasets or programs side by side

Drag the tab of the program or dataset to the far right of the screen until you see the shading appear then release – the dragged tab will display in the right half of the screen