

# Introduction to SAS Enterprise Guide

By the end of this training, attendees should be able to :

- Have a good understanding of SAS EG working environment
- Connect to server on SAS EG
- Navigate in SAS EG and run SAS programs
- Know some handy tricks that are specific to the tool
- Understand the layers of nodes, branches, process flows and projects
- Create, run and save EGP files

## What is SAS EG ?

SAS Enterprise Guide, also abbreviated as SAS EG, provides a graphical user interface that allows SAS users to easily fulfill analysis and reporting needs. The process flows as a key element of the tool help users to visually organize and maintain projects.

SAS EG is designed for a wide audience from statisticians, programmers, and even those having little experience using SAS.

# SAS EG – How to connect to the server

- Click the SAS EG icon to start application
- Edit the server profile as shown in the screenshot and type in your corporate credentials.

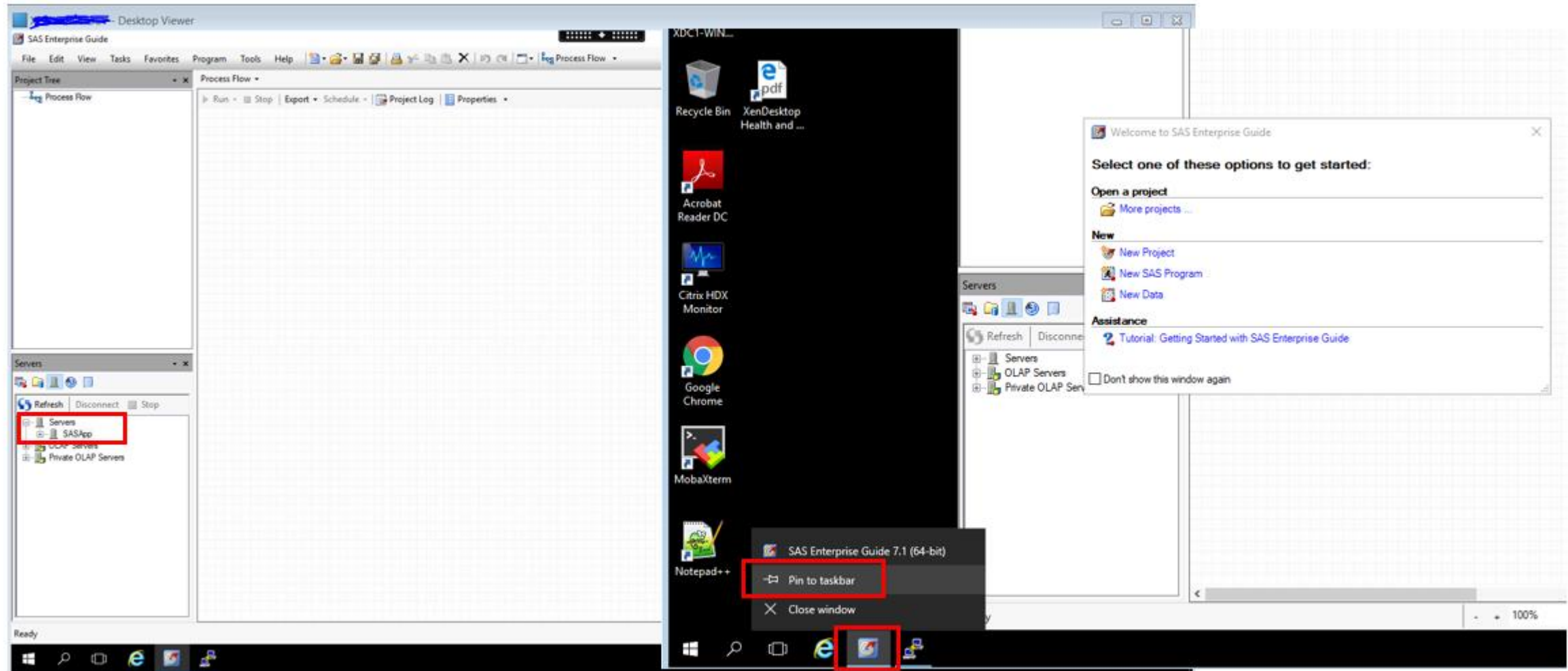
<Machine> server domain

<Port> 7777

- Click Save and then Set Active.

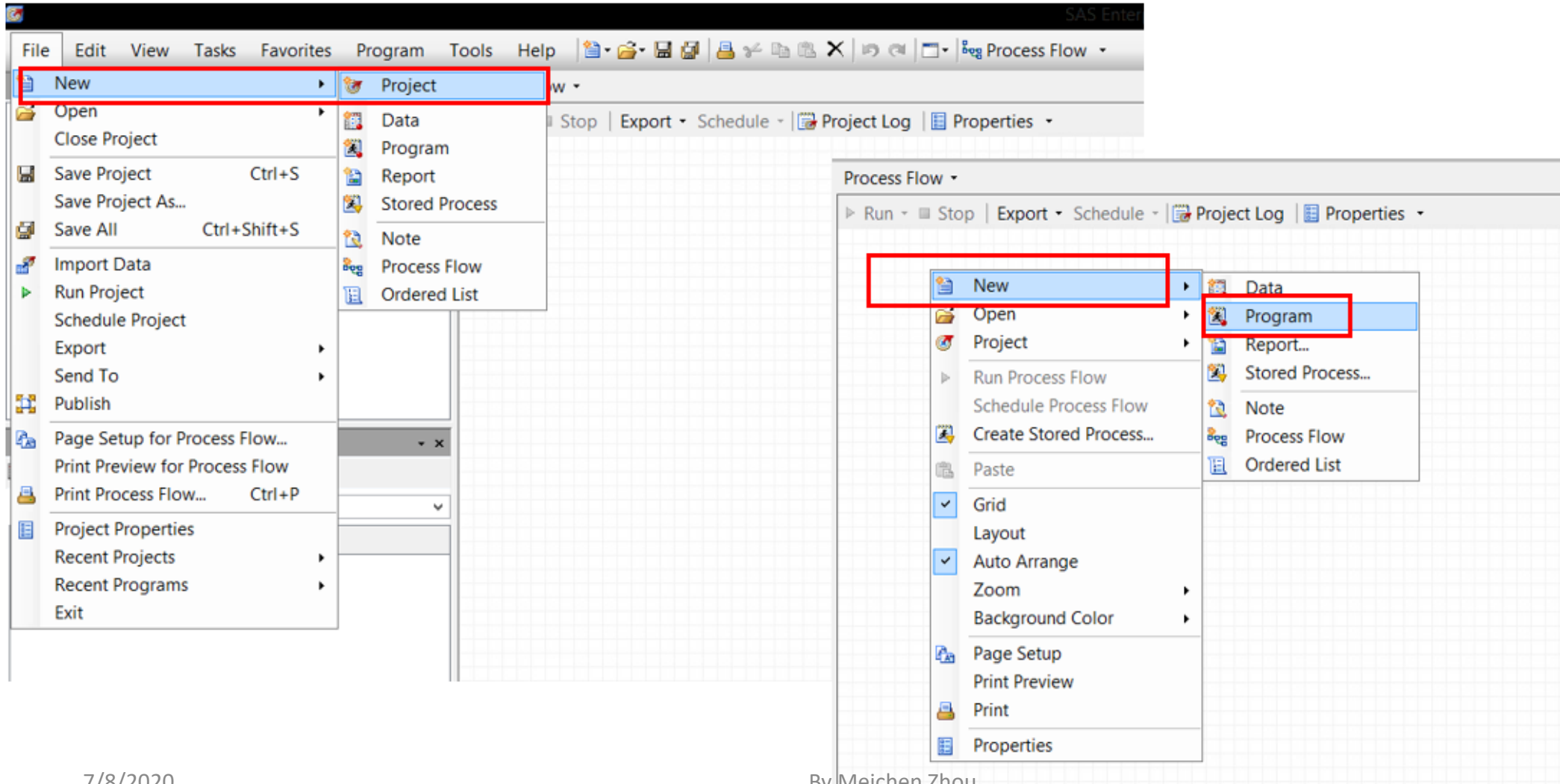
# SAS EG – How to connect to the server

- You are logged in! The connected server is listed in the lower left corner.
- You have the option to right click SAS EG icon and Pin it to task bar.



# SAS EG – How to Create Code Node

- Go to menu File -> New -> Project to open a new project.
- Then right click on the canvas -> New -> Program to start a SAS program.



# SAS EG – How to Create Code Node

- Create a sample program and click Run on the top menu, or push F3.
  - ✓ *Note that program can run as a whole or partial code can run when it's highlighted*
- The SAS report will be prompted as a result. If there is any error, SAS log will pop up in the front showing errors in red.

The screenshot displays the SAS EG (Enterprise Guide) interface. On the left, the 'Program' window shows SAS code for the CONTENTS procedure. The 'Run' button in the top toolbar is highlighted with a red box. A red arrow points from this button to the 'Log' tab in the right-hand pane. The right-hand pane shows the 'Region Demographics - 'AMR'' report, which includes a table of metadata for the SASHELP.DEMOGRAPHICS dataset and a table of engine/host dependent information.

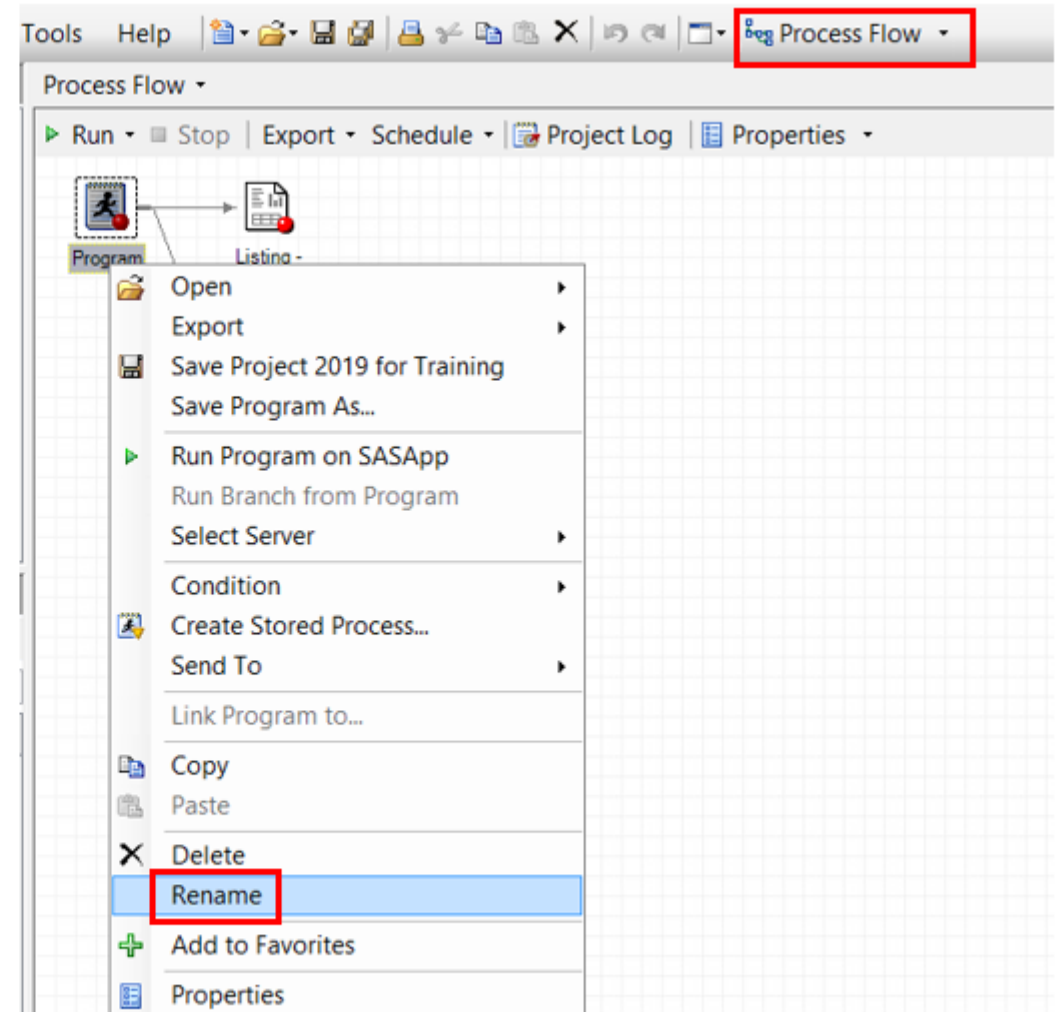
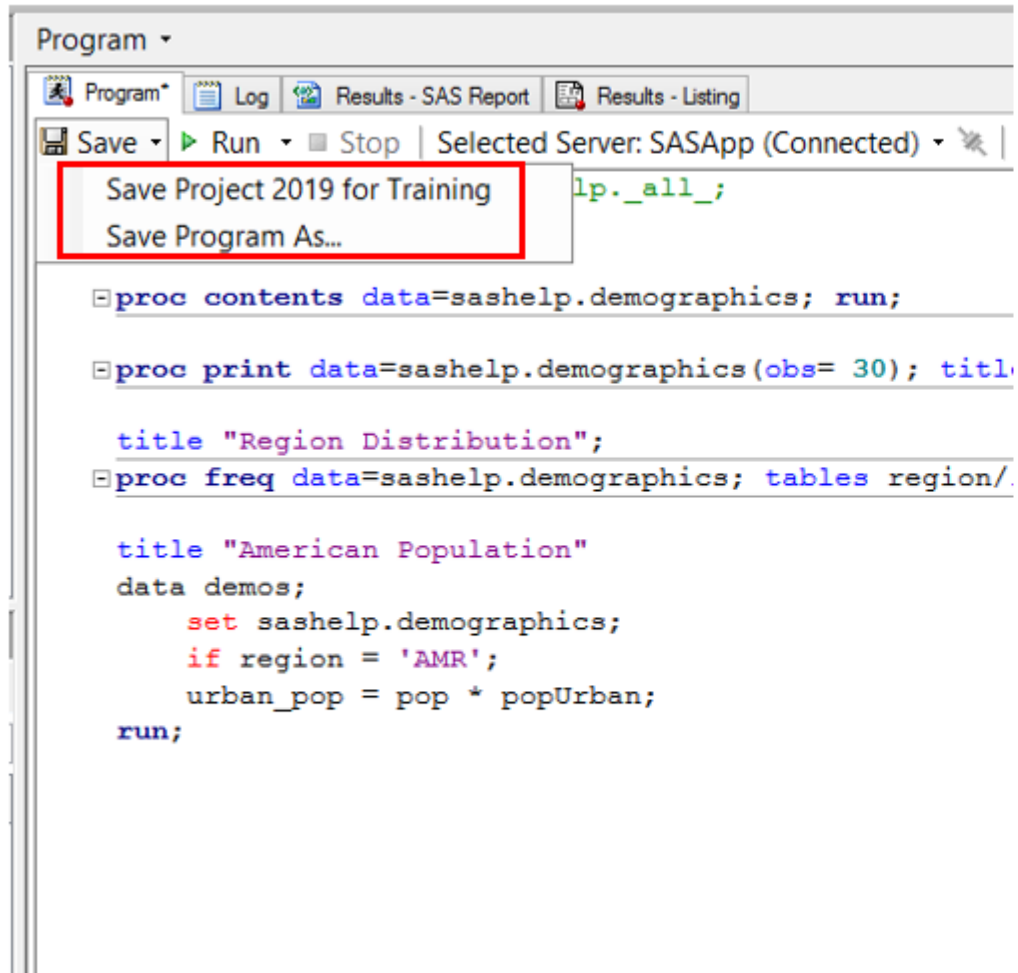
Switch between tabs to check the SAS program and important output files such as log, listing and report.

Region Demographics - 'AMR'	
The CONTENTS Procedure	
Data Set Name	SASHELP.DEMOGRAPHICS
Member Type	DATA
Engine	V9
Created	11/09/2016 20:13:41
Last Modified	11/09/2016 20:13:41
Protection	
Data Set Type	
Label	Data derived from World Population Prospects:The 2004 Revision. Population database. Population Division, Department of Economic and Social Affairs, United Nations
	<a href="http://esa.un.org/unpp">http://esa.un.org/unpp</a>
Data Representation	SOLARIS_X86_64, LINUX_X86_64, ALPHA_TRU64, LINUX_IA64
Encoding	us-ascii ASCII (ANSI)

Engine/Host Dependent Information	
Data Set Page Size	65536
Number of Data Set Pages	1
First Data Page	1
Max Obs per Page	303
Obs in First Data Page	197
Number of Data Set Repairs	0
Filename	/opt/sas/sashome/SASFoundation/9.4/sashelp/demographics.sas7bdat
Release Created	9.0401M4
Host Created	Linux
Inode Number	135002
Access Permission	rw-r--r--
Owner Name	sas
File Size	128KB
File Size (bytes)	131072

# SAS EG – How to Create Code Node

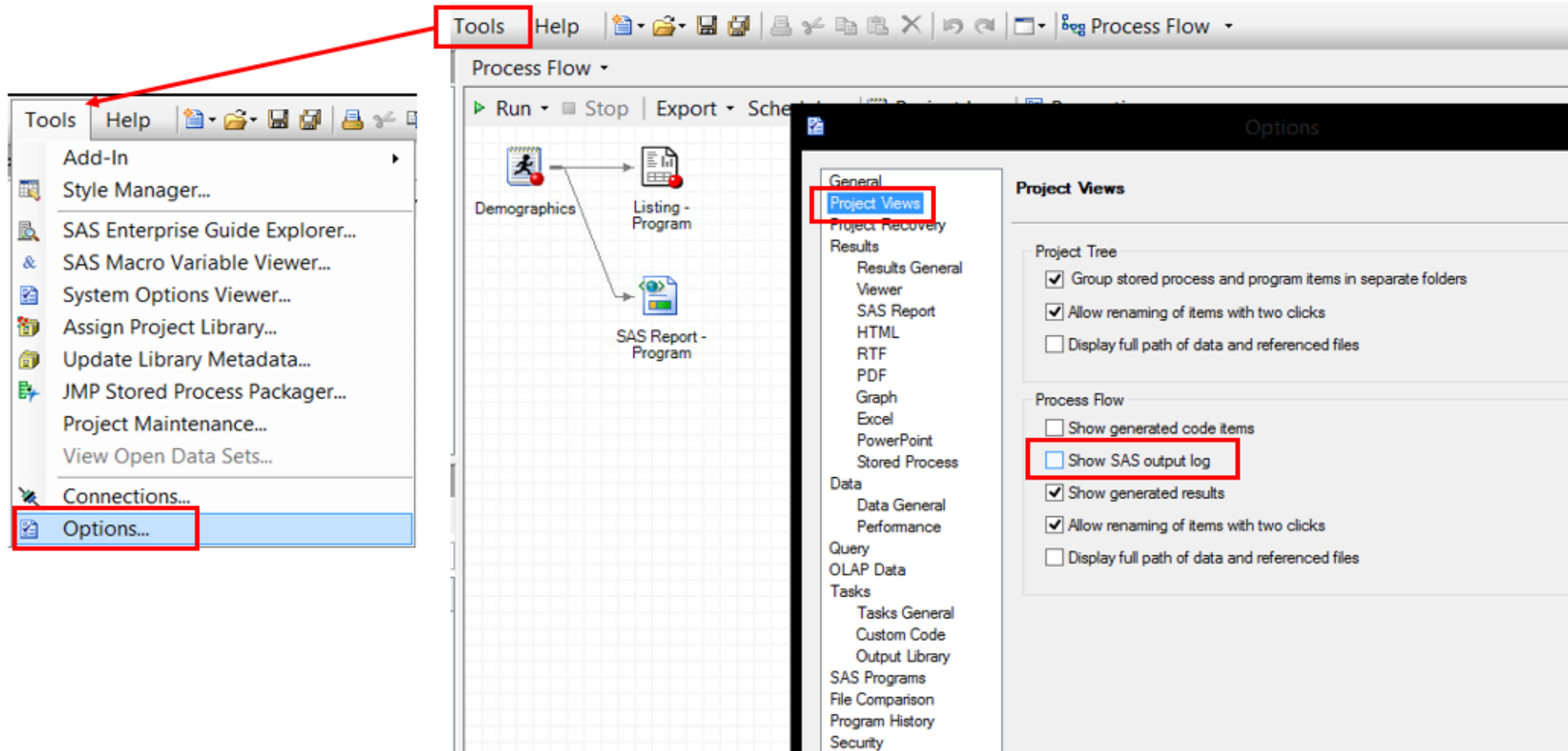
- Program view – there are options to either save the project as EGP file or simply save SAS program itself.
- Click on Process Flow to view the entire project – all of the output is shown on the canvas. Right click on a file to rename it.





# SAS EG – How to Create Code Node

- By default, log files are not shown on the process flow view.
- In order to enable log view, go to Tools -> Options -> Project View -> Show SAS Output Log -> Click OK. The log will appear in process flow and once the program is rerun.



# SAS EG – Tricks in running SAS programs

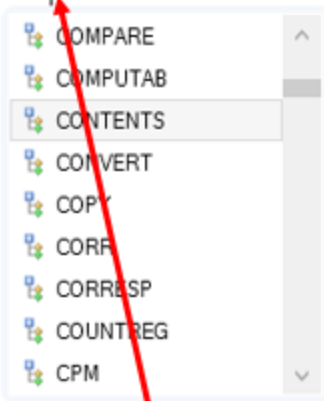
```
/*proc contents data=sashelp._all_;  
run;*/
```

```
proc contents data=sashelp.demographics; run;
```

```
proc print data=sashelp.demographics(obs= 10); title "De  
title "Region Distribution";
```

```
proc freq data=sashelp.demographics; tables region/list
```

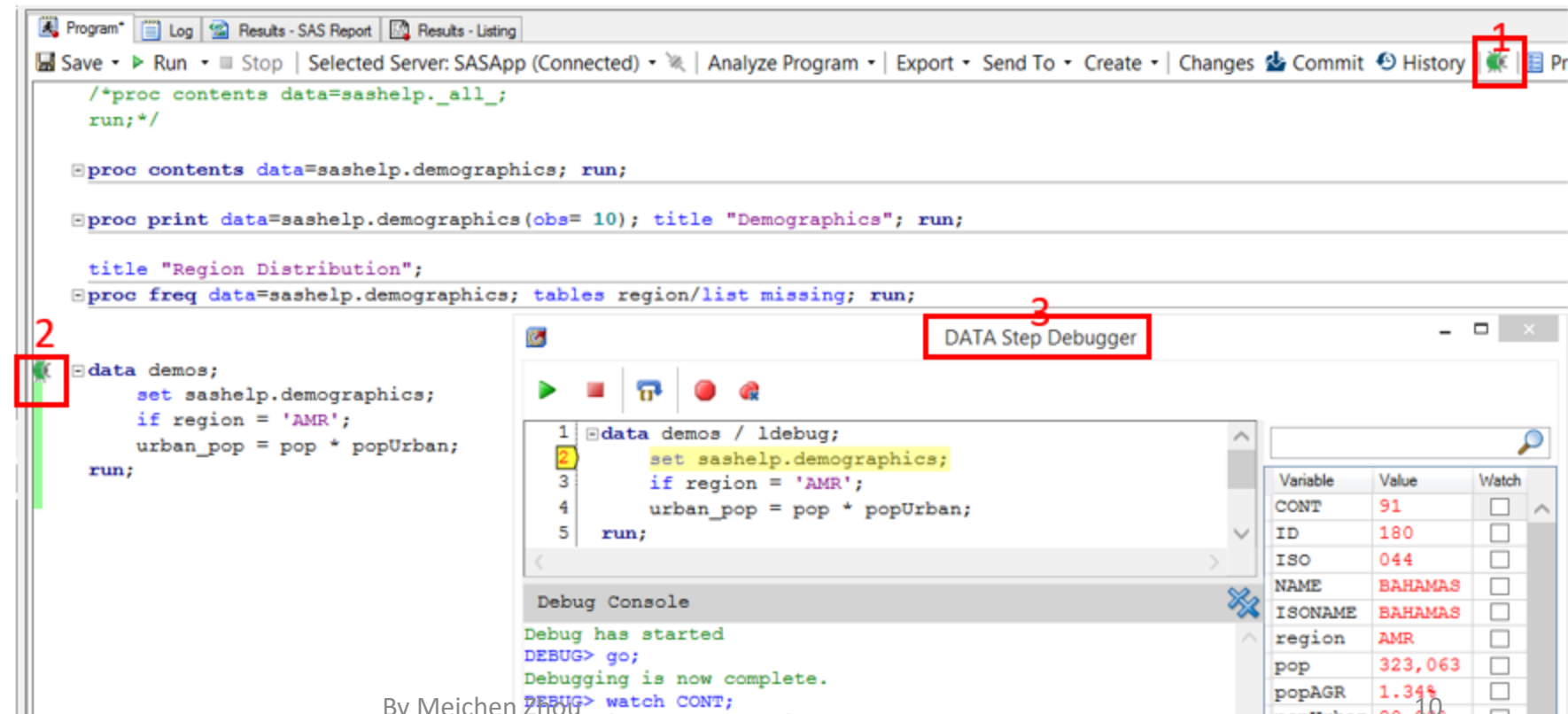
```
proc con
```



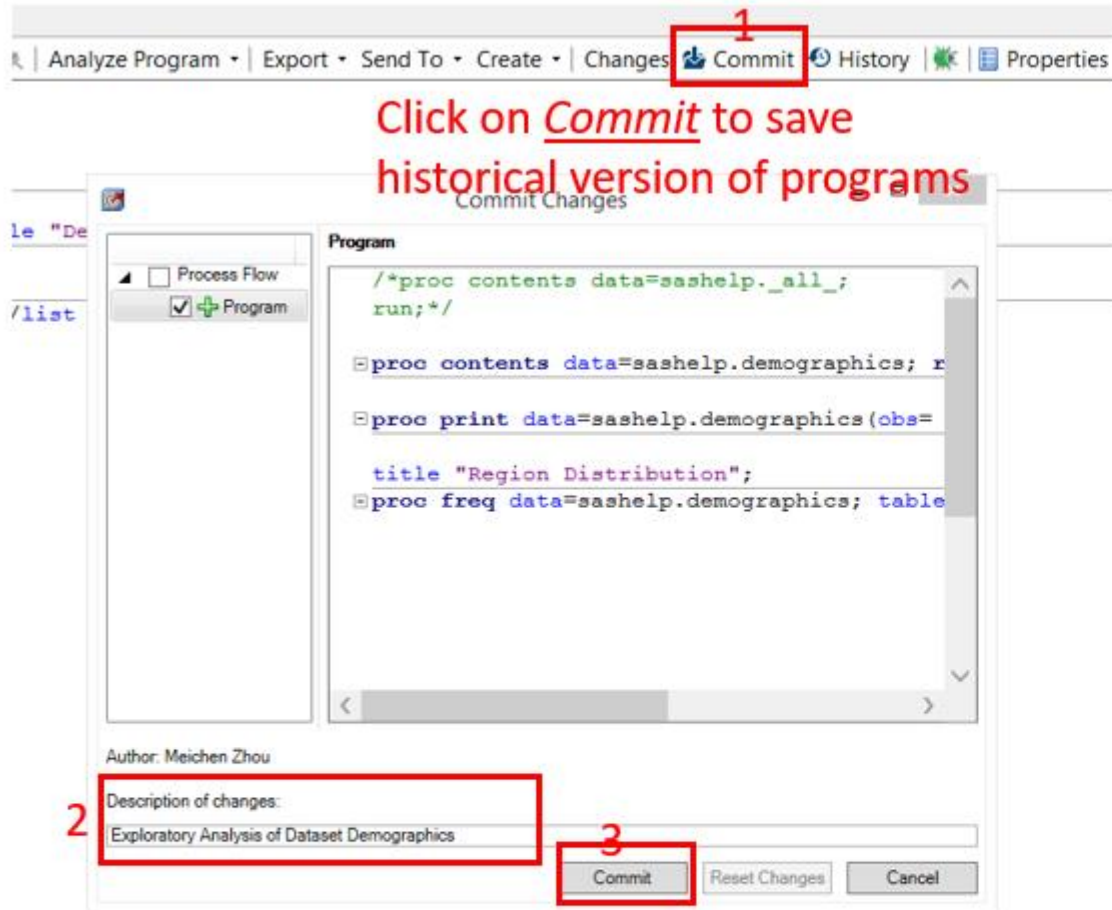
✓ Hit Tab to finish autospelling

## ✓ Debugging

- Click the green bug button on the top right – the same bug will show up next to the data steps you create.
- Click on the bug on the left so the debugger window pops up.
- Observe changes of variables or find any errors using this tool.



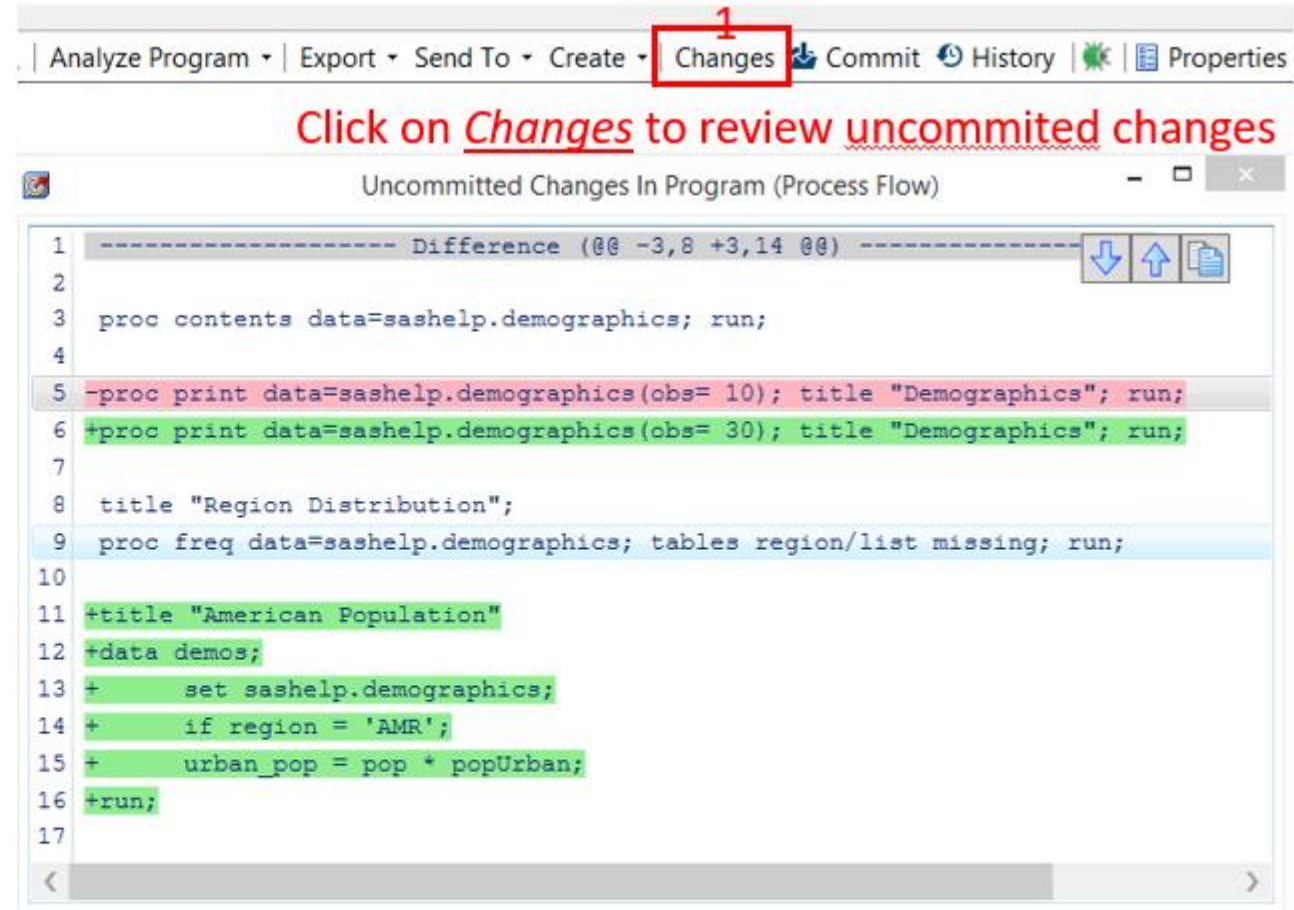
# SAS EG – Tricks in running SAS programs



## ✓ Commit

Write down description of changes to easily look back, and click Commit to save version

7/8/2020



## ✓ View Changes

Green highlighted indicates new code, while red highlighted indicates deleted ones

By Meichen Zhou

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# SAS EG – How to create connections between nodes and branches

- On the project canvas, right click to create the second SAS program. The new program also shows up in the left hand Project Tree window under Programs folder.
- The second program also shows up in process flow.

The screenshot displays the SAS Enterprise Guide (EG) interface with several key components:

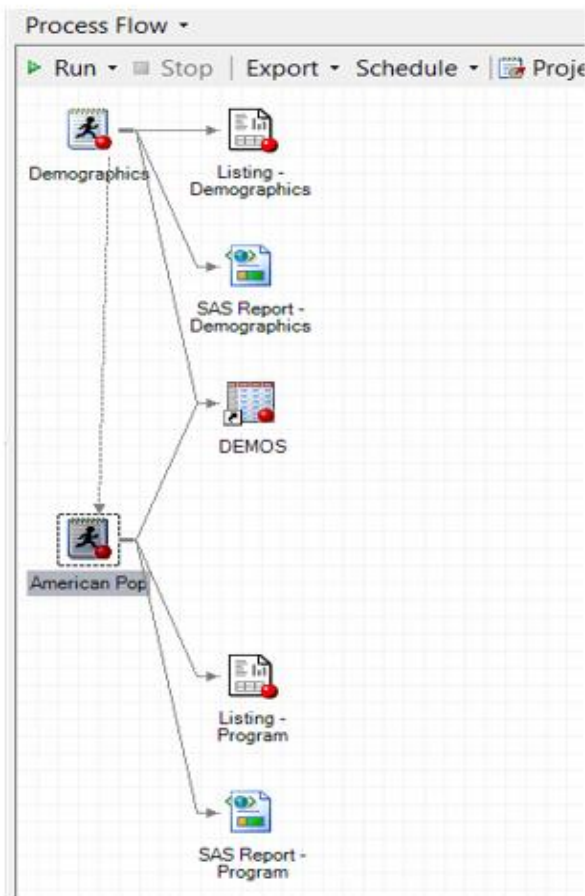
- Project Tree (Left):** A hierarchical view of the project structure. It shows a 'Process Flow' folder containing 'DEMOS', 'Programs', 'Demographics', and 'American Pop'. The 'Programs' folder is highlighted with a red box.
- Process Flow (Right):** A visual representation of the workflow. It shows a sequence of nodes: 'Demographics' (a person icon), 'Listing - Demographics' (a document icon), 'SAS Report - Demographics' (a document icon), 'DEMOS' (a document icon), 'American Pop' (a person icon), 'Listing - Program' (a document icon), and 'SAS Report - Program' (a document icon). Arrows indicate the flow between these nodes.
- SAS Folders (Bottom):** A window showing the local file system. It lists 'My Folder', 'Products', and 'Shared Data'. The 'Show:' dropdown is set to 'All applicable SAS types'.
- Code Editor (Center):** A window titled 'American Pop' showing SAS code. The code includes a title statement, a data step, and a proc sql statement.

```
title "American Population";  
data demos;  
  set sashelp.demographics;  
  if region = 'AMR';  
  urban_pop = pop * popUrban;  
run;  
  
proc means data=demos n nmiss min mean max;  
proc sql;  
  select count(*) as total, count(id) as  
quit;
```

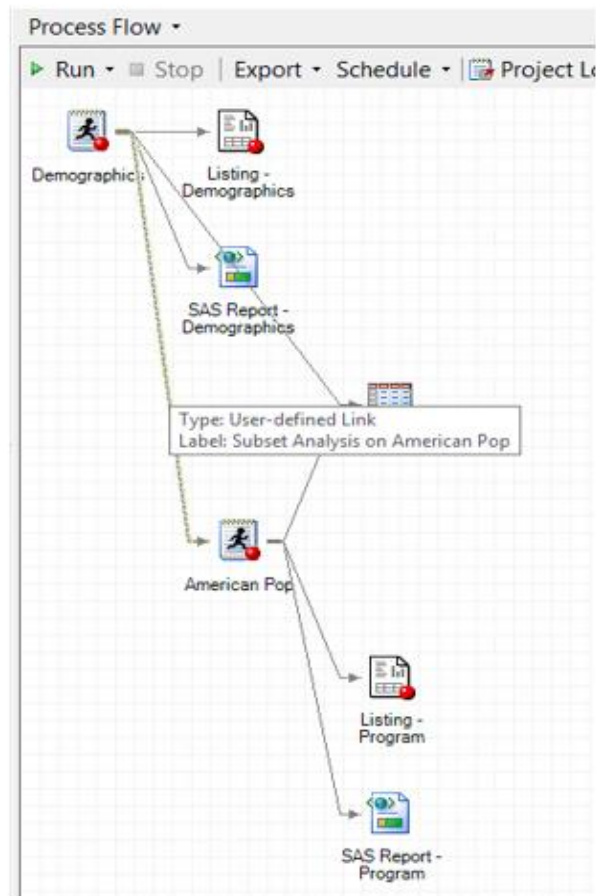


# SAS EG – How to create connections between nodes and branches

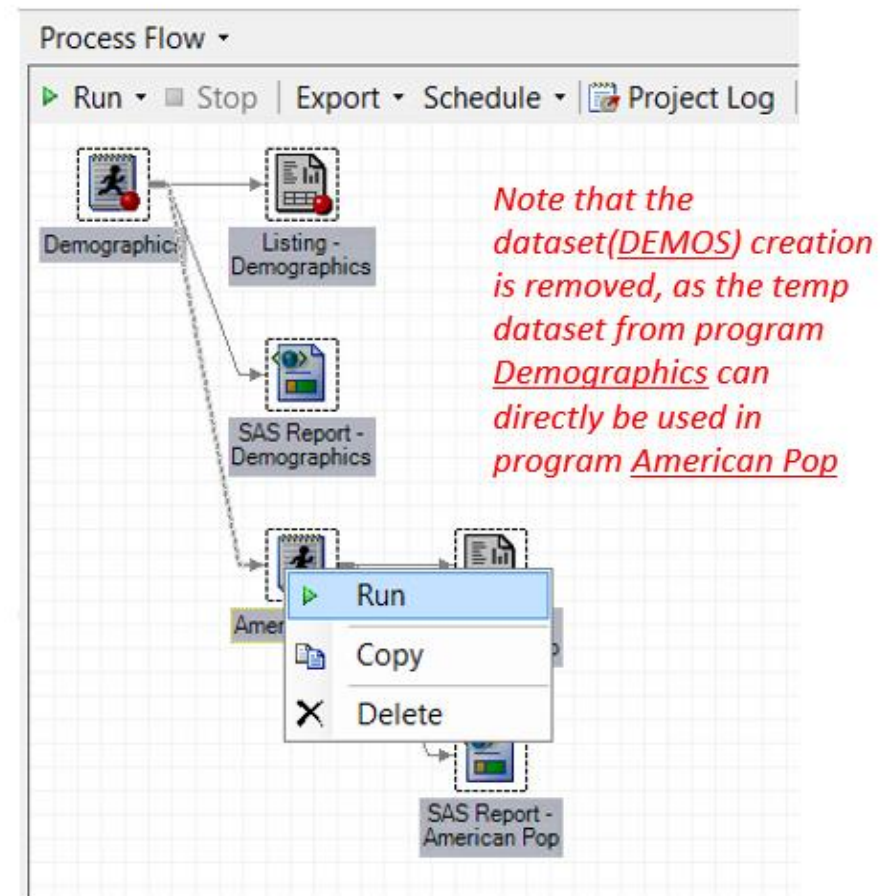
- Hover over one node, and when seeing a black cross sign, drag all the way to the other node.
- In this case, I created a link from program Demographics to American Pop, and renamed the link label.
- The benefit of making a process flow is that it's easier to organize and arrange for complicated projects, and also it can run as a whole or partially. To do this, simply highlight the part of flow and right click -> Run.



7/8/2020



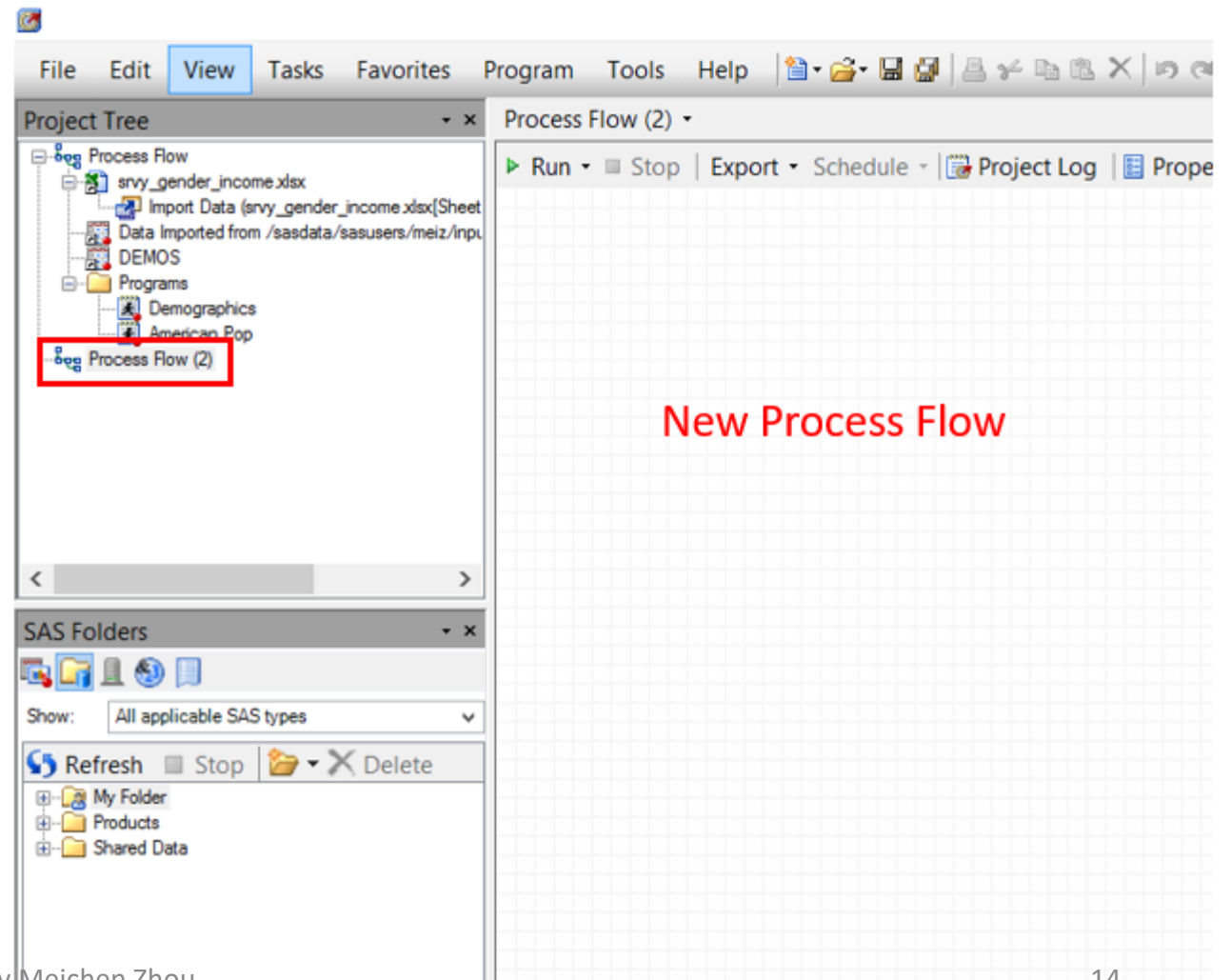
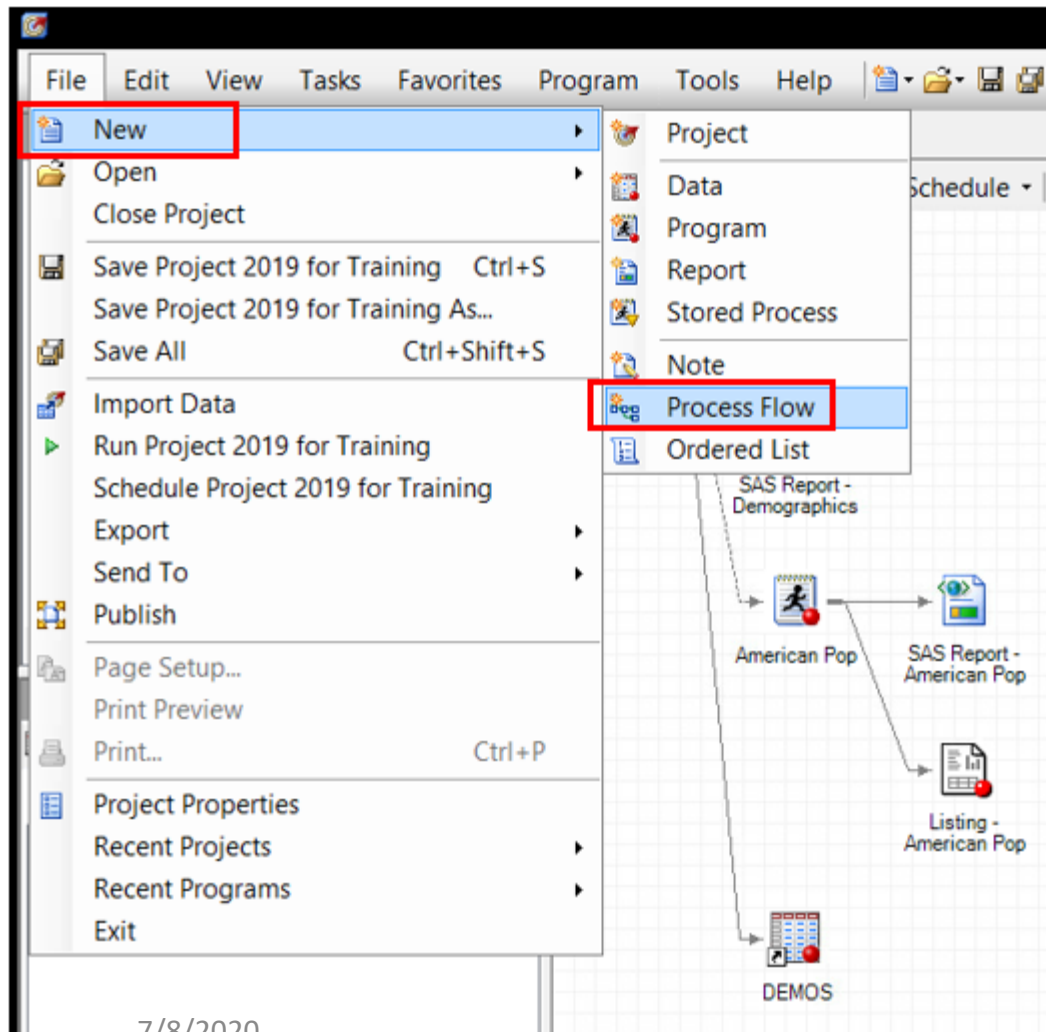
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# SAS EG – How to create more than one process flow

- To create a brand new process flow in the same project, go to menu File -> New -> Process Flow.
- A new process flow comes in the list under Process Tree in the upper left and a blank canvas opened.

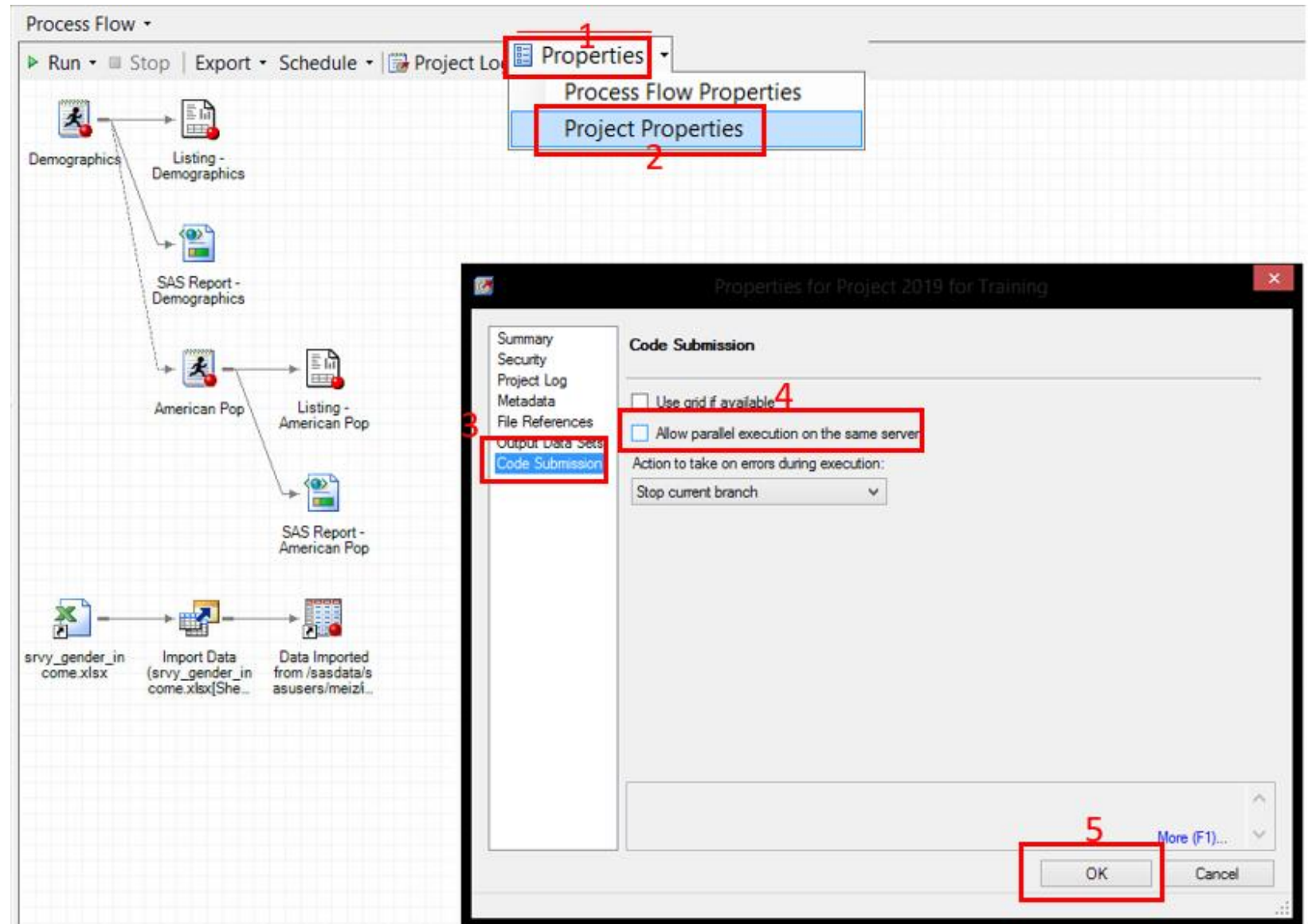


New Process Flow

# SAS EG – How to create more than one process flow

- To enable parallel processing of multiple tasks, click on Properties -> Project Properties -> Code Submission -> Allow parallel execution on the same server -> OK.
- Therefore multiple tasks can run in parallel on the same server instead of sequentially.

*Note that submission of each flow is in its own distinct SAS session and doesn't have direct access to the other submissions' temporary libraries or macro variables.*



# SAS EG – How to save a SAS EG Project

- To save the project, go to menu File -> Save Project options. Or go to project view -> Save. Or use the save buttons on the top.
- Save the project as SAS Enterprise Guide Project(EGP) file.

