

SAS® Programmering i SAS® Enterprise Guide

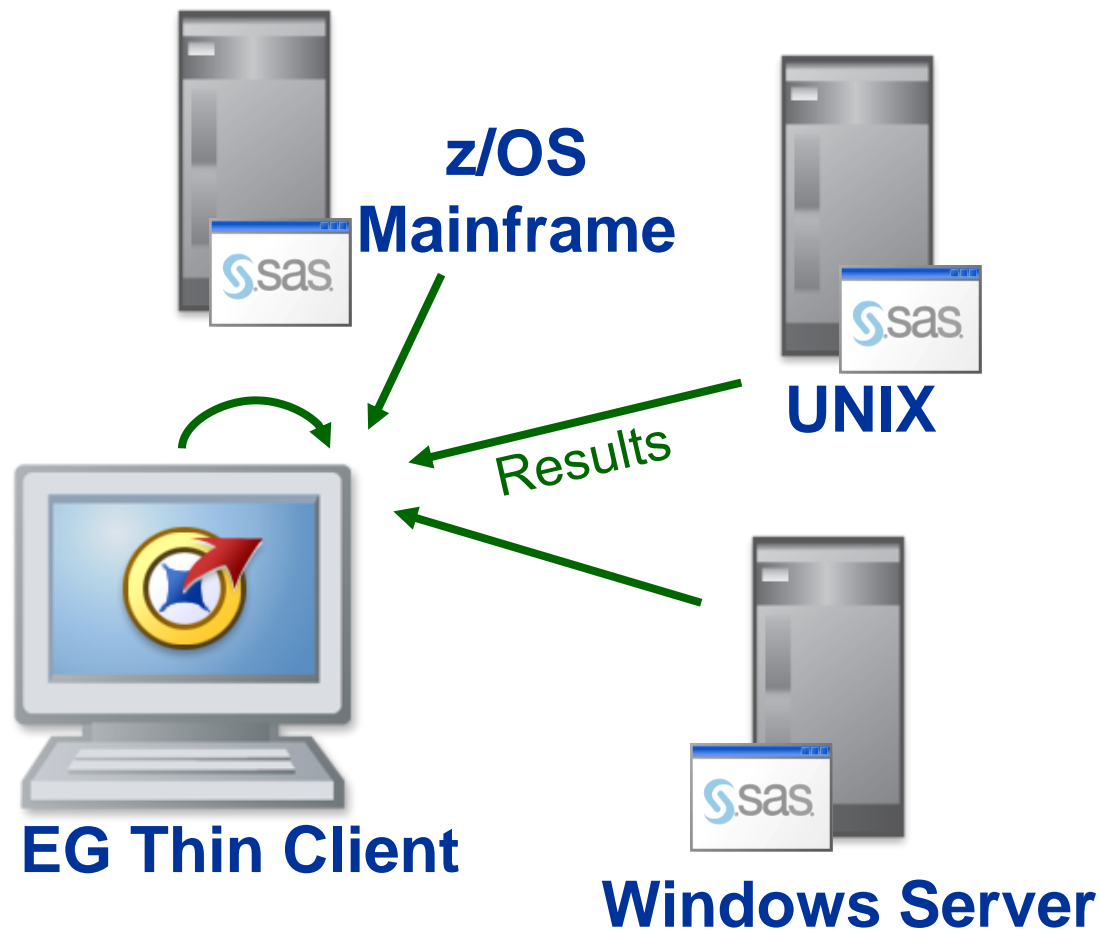
Bliv Klog på SAS



THE
POWER
TO KNOW®

SAS® Enterprise Guide - serverbaseret

- Ikke nødvendigt med:
 - SAS®/CONNECT statements SIGNON, RSUBMIT/ENDRSUBMIT
 - SAS lokalt på klient



Spørgsmål til dig

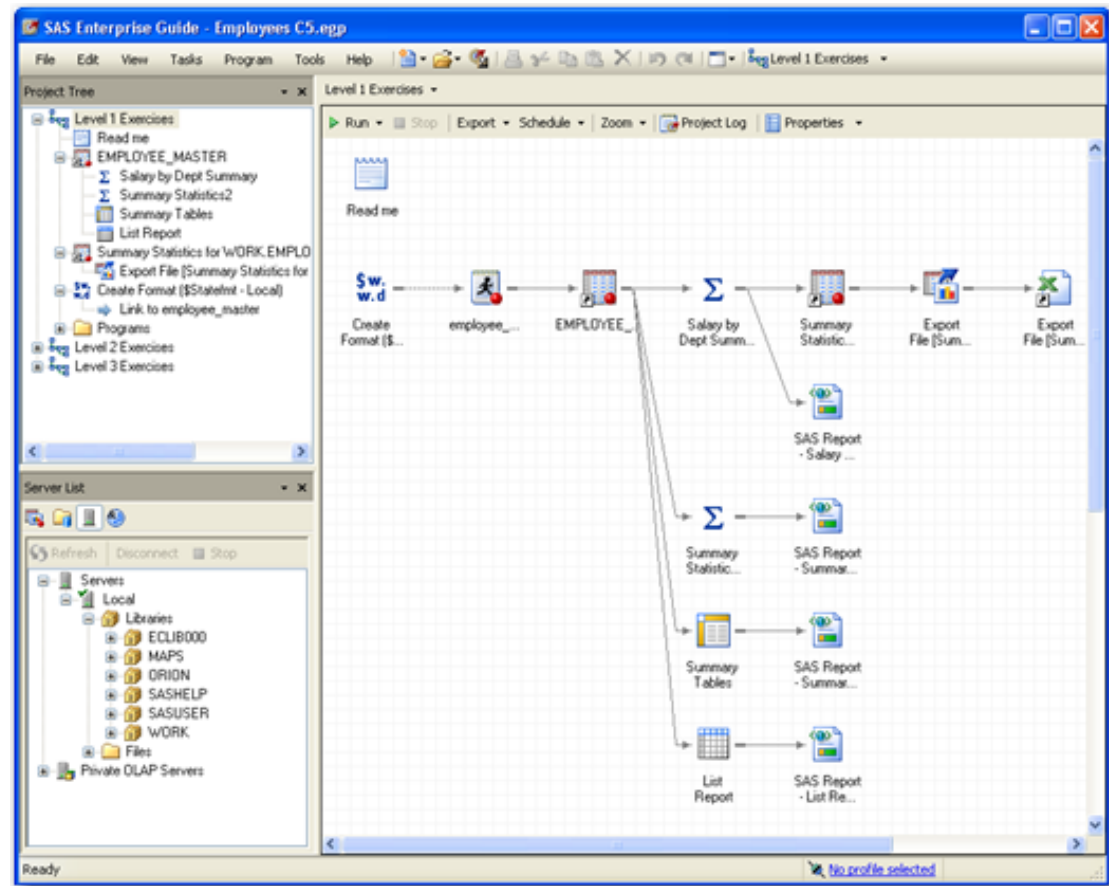
Kender du din SAS[®] Enterprise Guide konfiguration?

1. SAS[®] Enterprise Guide og SAS på min PC
2. SAS[®] Enterprise Guide på min PC og SAS på en server
3. Ved det ikke.

Projektorienteret tilgang

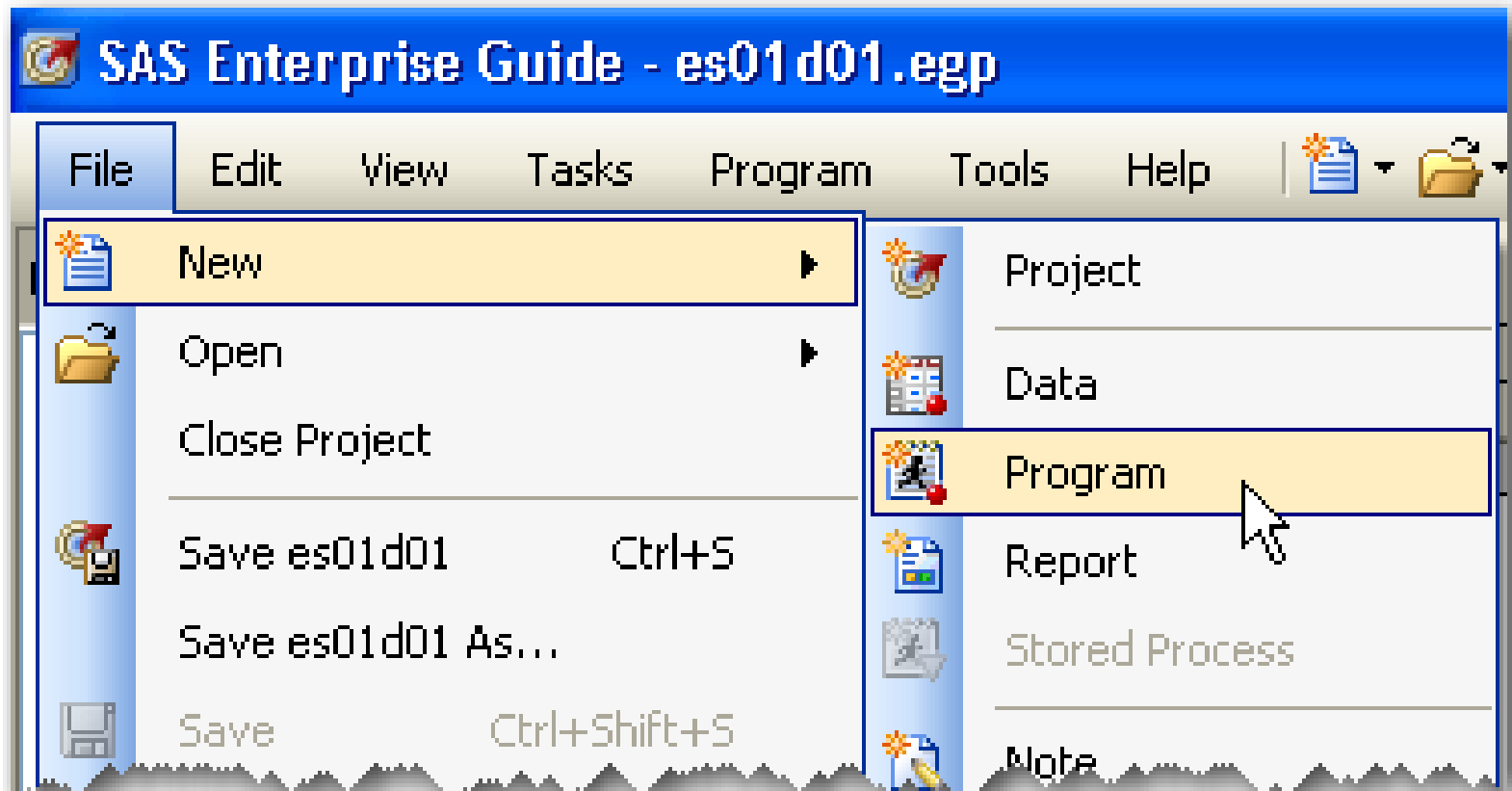
Et projekt er en blanding af:

- datakilder
- SAS programmer og logs
- tasks og queries
- resultater
- prompts (makrovariable)
- dokumentation



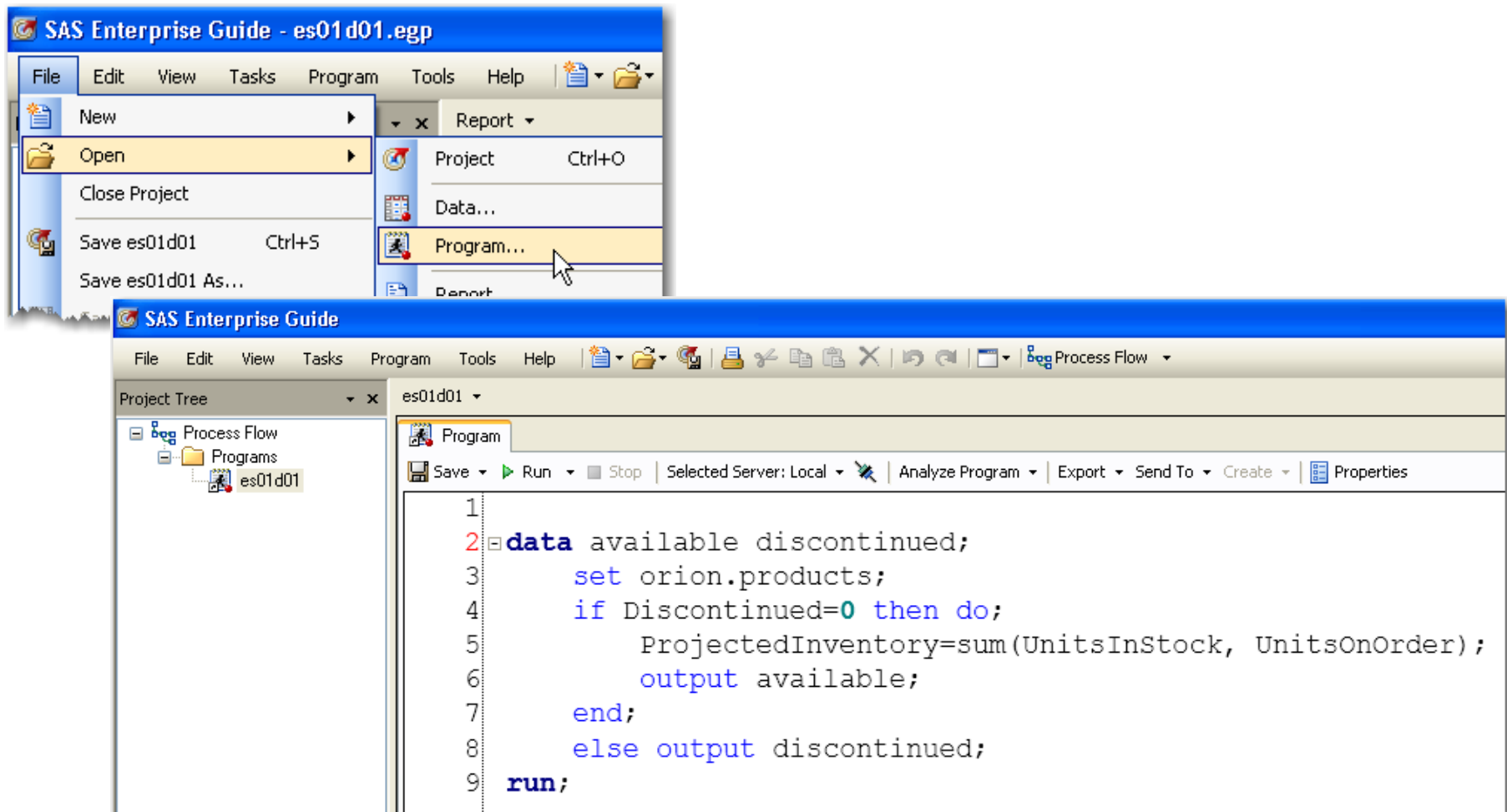
Skriv nyt SAS program

Og fortsæt som hidtil...



Åbn eksisterende SAS program

- Kodeændringer gemmes i .sas program.
- Vedligeholdelse af .sas program kan også foregå uden for EG.



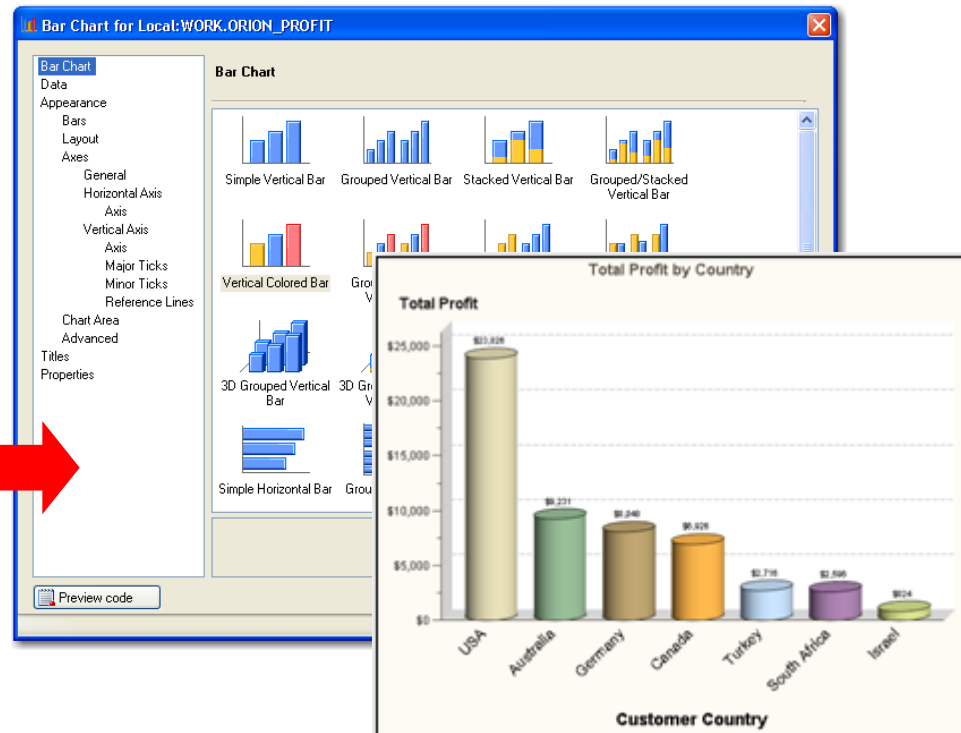
Kode eller klik?

-Gør det, der er mest effektivt i den givne situation.

```

1 /* DATA step program reverse-eng
2 DATA WORK.ORION_PROFIT;
3     attrib Product_ID
4         length=8
5         format=12.
6         label='Product ID' ;
7     attrib Product_Line
8         length=$20
9         label='Product Line' ;
10    attrib Order_ID
11        length=8
12        format=BEST10.
13        label='Order ID';

```



Klik dig til tidskrævende procedure kode

SAS råder over flere hundrede procs – kender du dem alle?

```

Summary Tables ▾
Input Data Code Log Results
Modify Task Export Send To Create Properties
15 /* -----
16 Run the tabulate procedure
17 ----- */
18 PROC TABULATE
19 DATA=WORK.ORION_PROFIT
20
21 FORMAT=DOLLAR8.
22 ;
23
24 VAR Profit;
25 CLASS Customer_Age_Group / C
26 CLASS Customer_Country / C
27
28 FORMAT
29 Customer_Country $CNTF
30
31 TABLE /* Row Dimension */
32 Customer_Country={LABEL=''}
33 ALL={LABEL='Total'}*{STYLE={FONT_SIZE=12PT FONT_W
34 /* Column Dimension */
35 Customer_Age_Group*
36 Profit={LABEL=' '}*
37 Sum={LABEL=' '}
38 ALL={LABEL='Total'}*

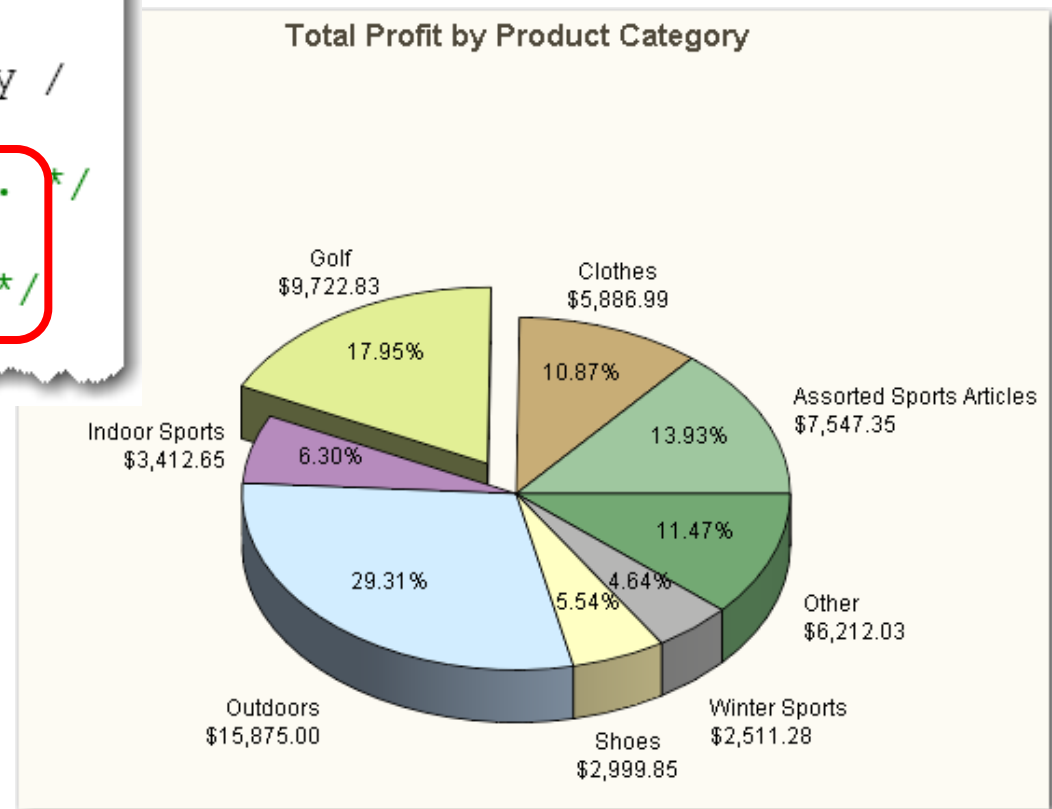
```

	Customer Age Group				Total
	15-30 years	31-45 years	46-60 years	61-75 years	
Australia	--	\$3,528	\$1,847	\$3,856	\$9,231
Canada	\$3,783	\$2,203	\$678	\$262	\$6,926
Germany	\$257	\$3,014	--	\$4,778	\$8,048
Israel	\$81	\$331	\$413	--	\$824
Turkey	\$858	\$1,755	--	\$102	\$2,716
USA	\$9,566	\$7,111	\$5,259	\$1,891	\$23,826
South Africa	\$2,093	\$353	\$151	--	\$2,596
Total	\$16,638	\$18,294	\$8,347	\$10,889	\$54,168

Tilføj egen kode

Klik den kedelige basiskode og optimér med egen kode.

```
PROC GCHART DATA =WORK.SORTTempTal  
;  
    PIE3D    Product_Category /  
    SUMVAR=Profit  
    /* Start of custom user code. */  
    explode="Golf"  
    /* End of custom user code. */
```



Skriv ODS statements eller sæt flueben ?

Tools → Options → Results og sæt flueben ved SAS Report, HTML, PDF, RTF, eller text.

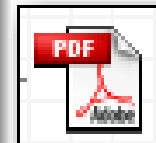
Number of Orders per Product Category

Product Category		
Product_Category	Frequency	Percent
Assorted Sports Articles	79	12.80
Children Sports	29	4.70
Clothes	121	19.61
Golf	74	11.99
Indoor Sports	16	2.59



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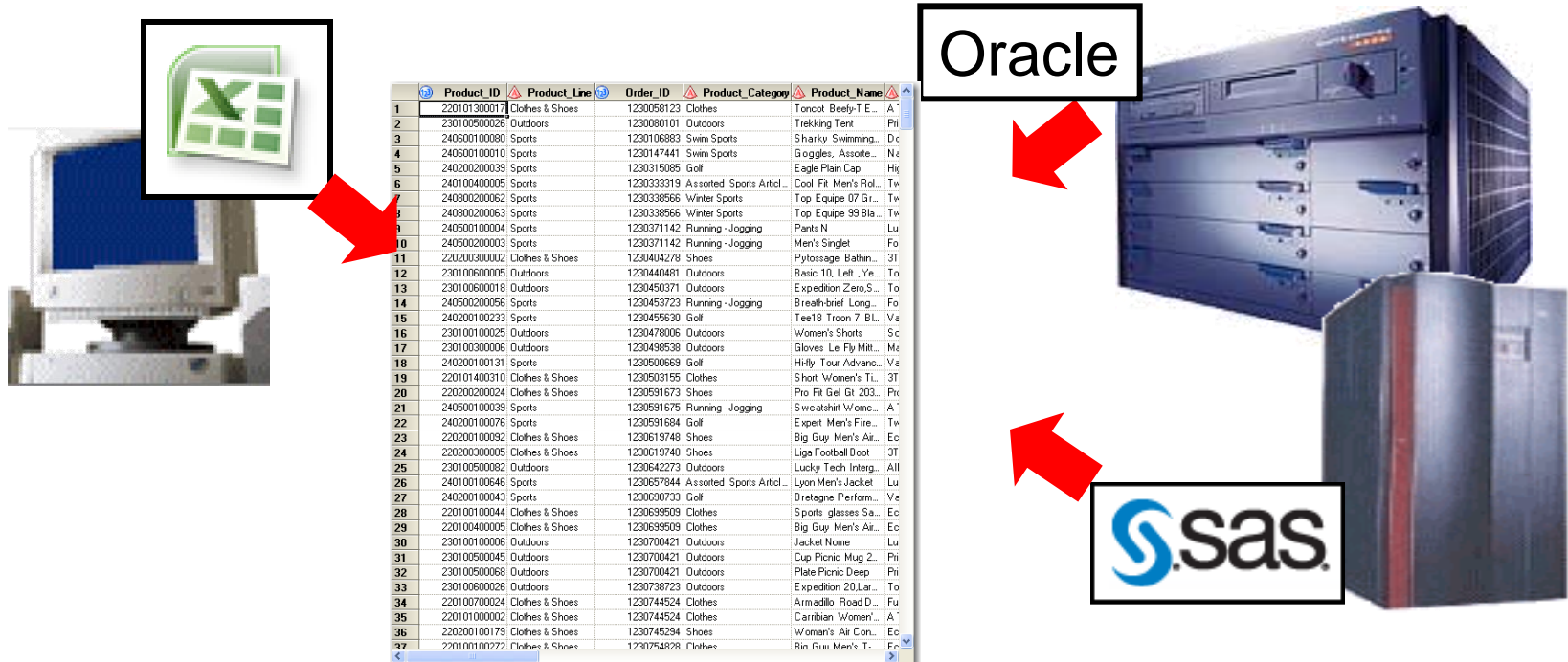
13:06 We

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Children Sports	29	4.70
Clothes	121	19.61
Golf	74	11.99
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Klik eller kode?

Kombinér lokal Excel-fil med remote Oracle tabel på UNIX med en SAS tabel på Z/OS?



Moderniseret %LET

Prompts

Specify Values for Project Prompts [X]

Show only required items (denoted by *)

General [Reset group defaults](#)

* Select a Product Category:
Assorted Sports Articles [v]

* Select a Date Range:

Range type:
Custom [v]

From:
Beginning of current year [v] [calendar icon] (January 01, 2010)

To:
March 31, 2010 [v] [calendar icon]

March, 2010 [left arrow] [right arrow]

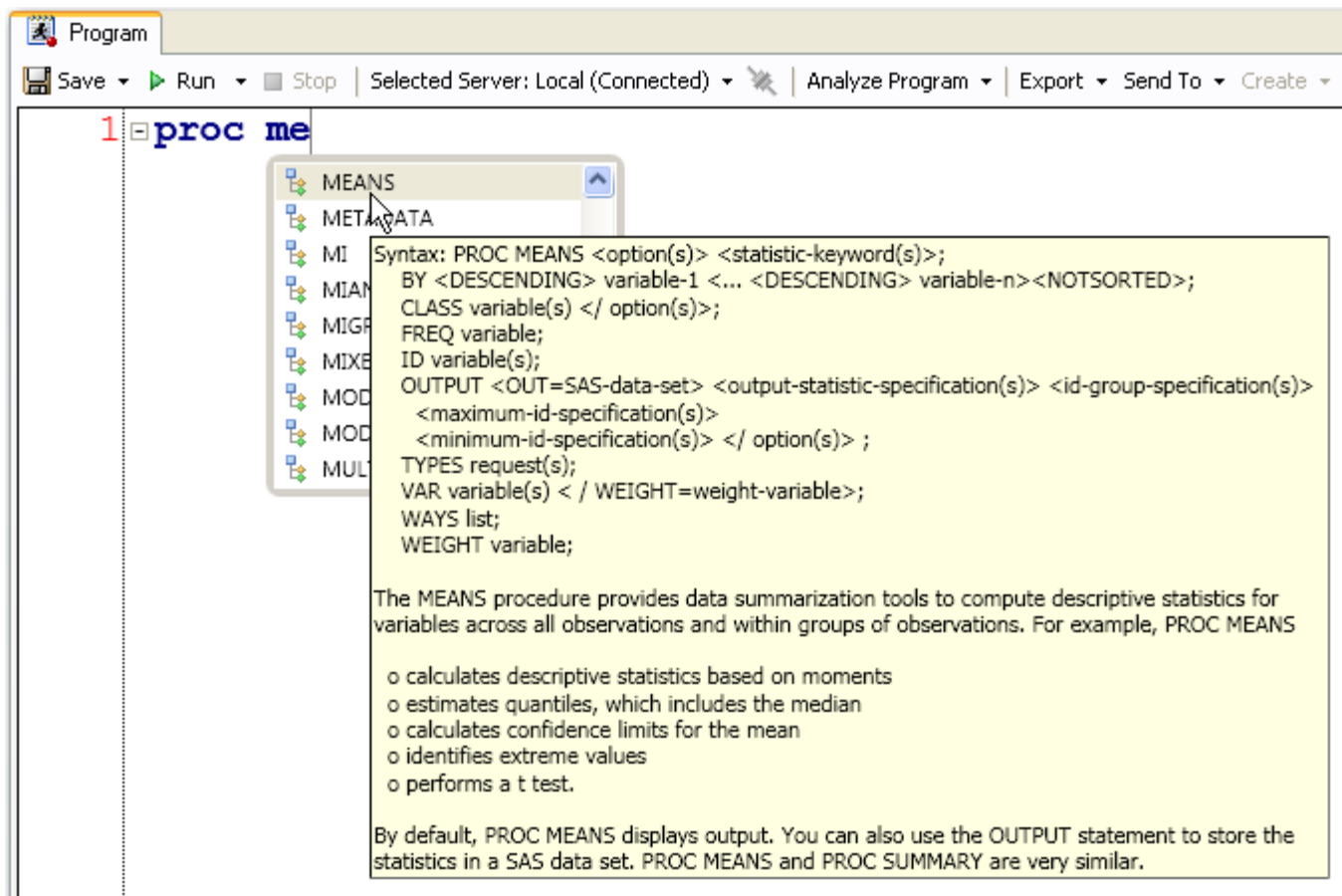
Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	1	2	3
4	5	6	7	8	9	10

Run Cancel

EG 4.3 program editor

Code autocomplete

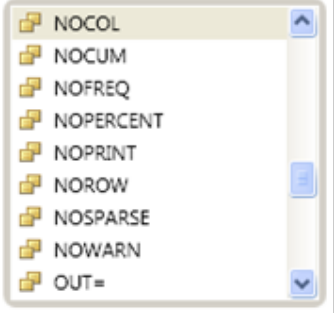
Dynamisk syntakshjælp



Autocomplete i editor

- SAS statements
- procedurer
- makroprogrammer
- makrovariable
- funktioner
- formater
- librefs
- SAS datasæt.

```
1 proc freq data=orion.customers;  
2     tables Customer_Country / no
```



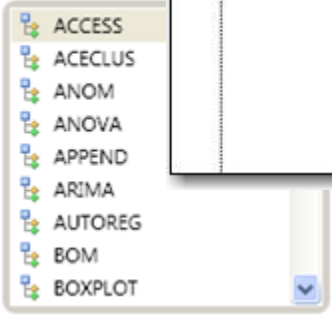
A screenshot of the SAS editor showing the autocomplete menu for the 'tables' option in a PROC FREQ statement. The menu lists various options: NOCOL, NOCUM, NOFREQ, NOPERCENT, NOPRINT, NOROW, NOSPARSE, NOWARN, and OUT=.

```
8     set orion.  
9
```



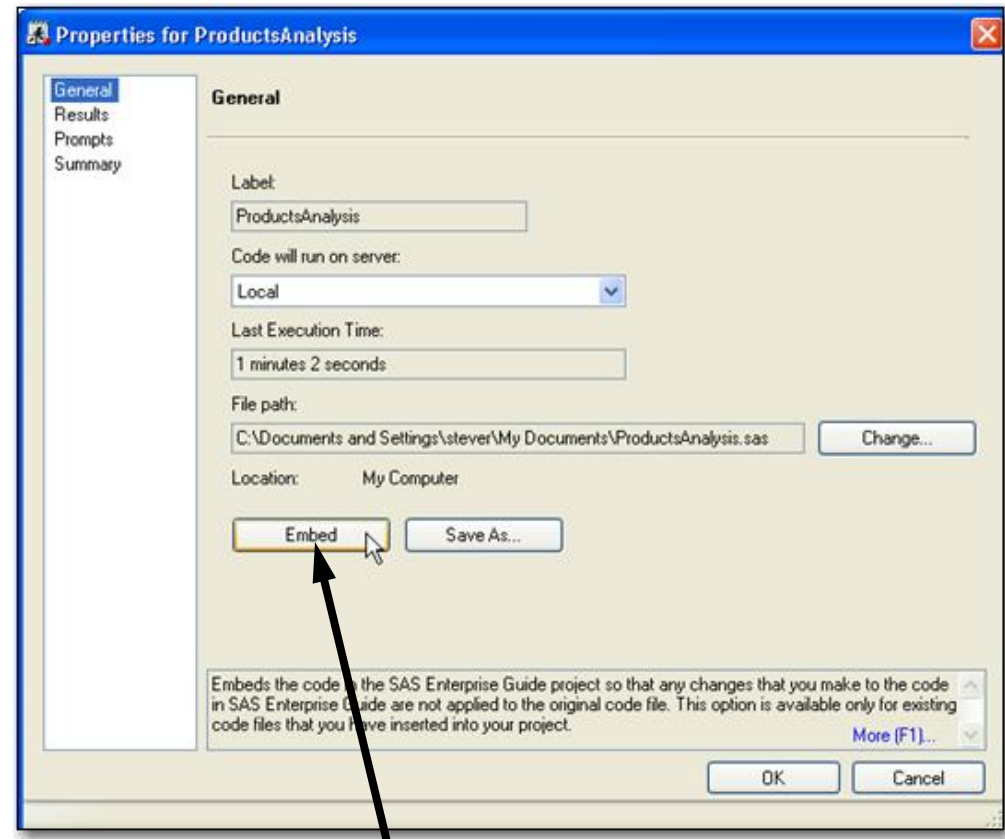
A screenshot of the SAS editor showing the autocomplete menu for the 'set' statement. The menu lists several dataset names: CUSTOMERS, EMPLOYEE_ADDRESSES, EMPLOYEE_DETAIL, EMPLOYEE_DONATIONS, EMPLOYEE_MASTER, EMPLOYEE_ORGANIZATION, EMPLOYEE_PAYROLL, MANAGER_LOOKUP, and ORDERS.

```
7 proc  
8  
9  
10
```



A screenshot of the SAS editor showing the autocomplete menu for the 'proc' statement. The menu lists various PROC statements: ACCESS, ACECLUS, ANOM, ANOVA, APPEND, ARIMA, AUTOREG, BOM, and BOXPLOT.

Program properties

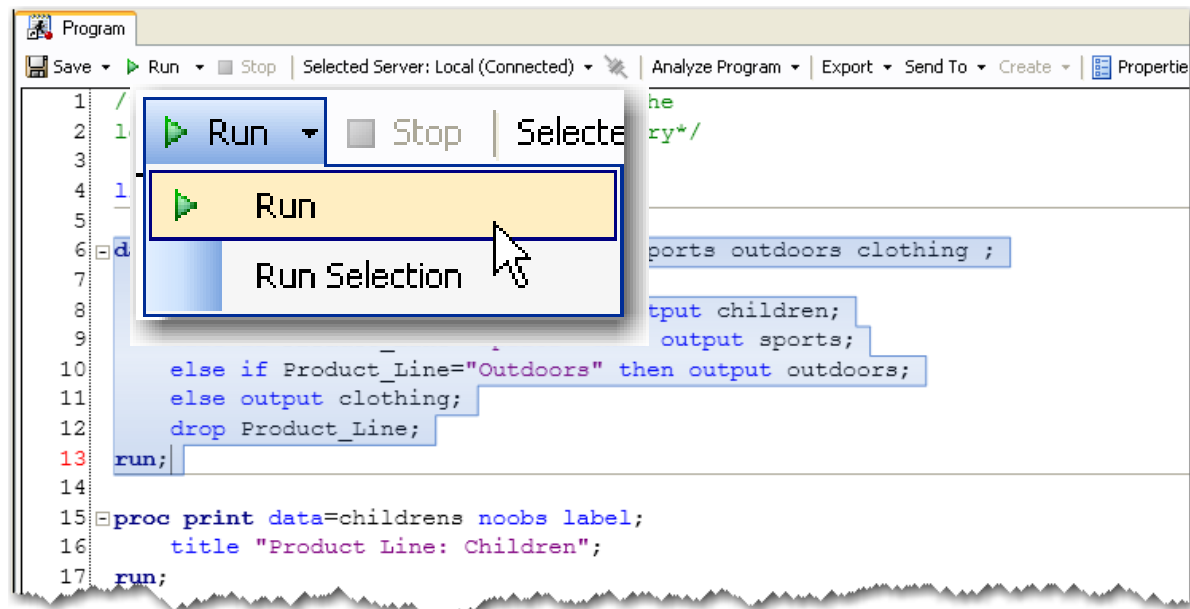


Submit programkode som du plejer

Tryk F3 eller F8

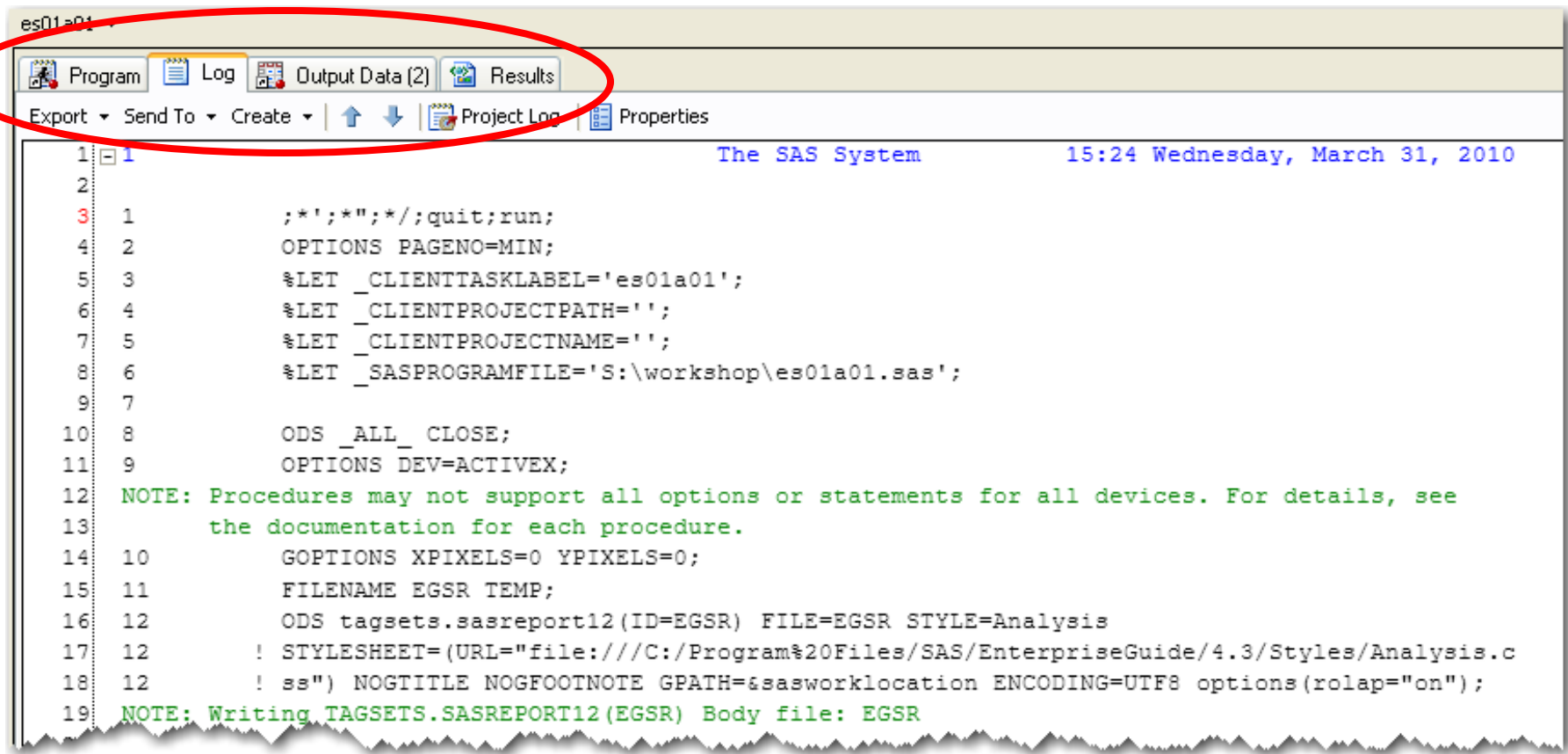
eller

Klik Run ...



Skift mellem editor, log og resultater

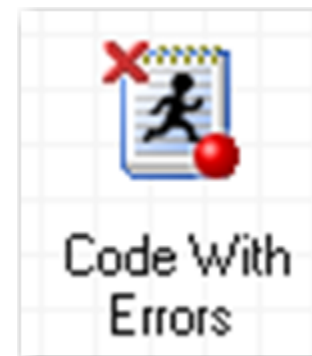
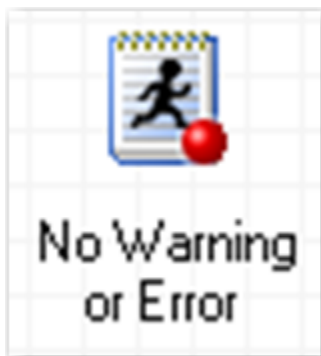
Faneblad frem for vindue



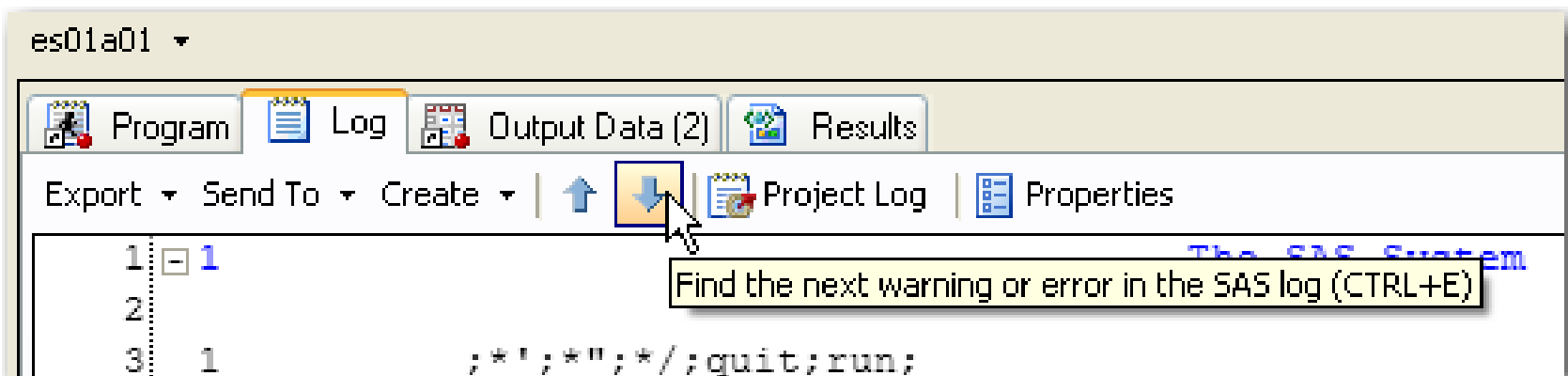
```
es01a01
Program Log Output Data (2) Results
Export Send To Create Project Log Properties
The SAS System 15:24 Wednesday, March 31, 2010
1 1
2
3 1 ;*;*";*/;quit;run;
4 2 OPTIONS PAGENO=MIN;
5 3 %LET _CLIENTTASKLABEL='es01a01';
6 4 %LET _CLIENTPROJECTPATH='';
7 5 %LET _CLIENTPROJECTNAME='';
8 6 %LET _SASPROGRAMFILE='S:\workshop\es01a01.sas';
9 7
10 8 ODS _ALL_ CLOSE;
11 9 OPTIONS DEV=ACTIVEX;
12 NOTE: Procedures may not support all options or statements for all devices. For details, see
13 the documentation for each procedure.
14 10 GOPTIONS XPIXELS=0 YPIXELS=0;
15 11 FILENAME EGSR TEMP;
16 12 ODS tagsets.sasreport12(ID=EGSR) FILE=EGSR STYLE=Analysis
17 12 ! STYLESHEET=(URL="file:///C:/Program%20files/SAS/EnterpriseGuide/4.3/Styles/Analysis.c
18 12 ! ss") NOGTITLE NOGFOOTNOTE GPATH=%sasworklocation ENCODING=UTF8 options(rolap="on");
19 NOTE: Writing TAGSETS.SASREPORT12(EGSR) Body file: EGSR
```

Advarsler og fejl i log

Forskellige ikoner....

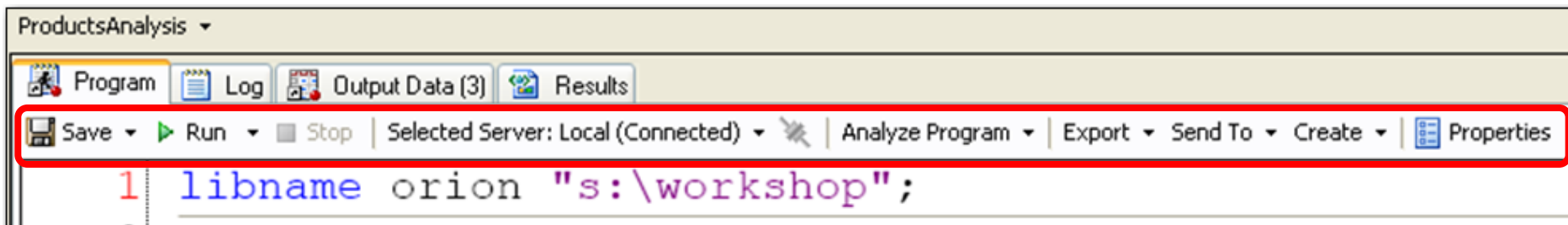


Pil dig frem til næste advarsel eller fejl i loggen....



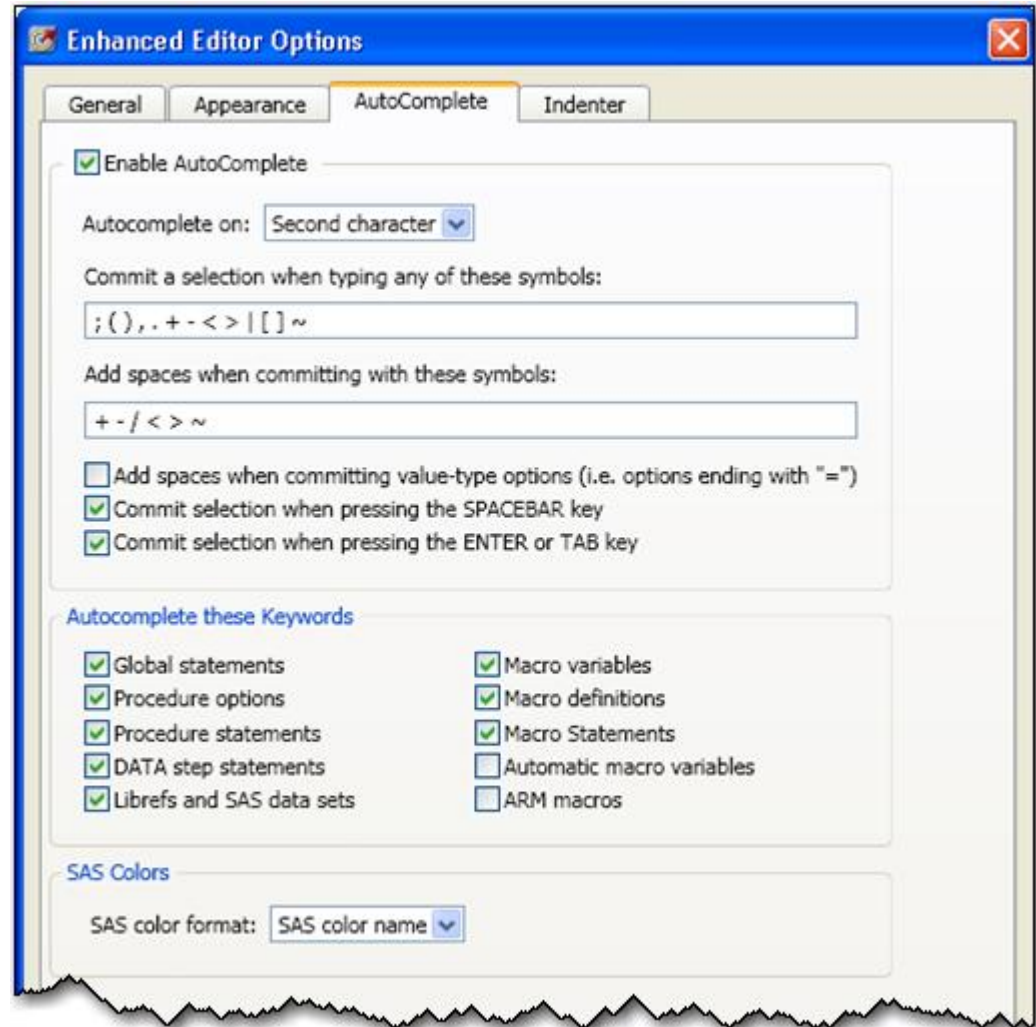
Programmets værktøjslinie – lige ved hånden

- Gem program
- Kør eller stop program
- Vælg server – f.ex. skift mellem udvikling, test, prod.
- Analysér program for flow eller grid
- Eksportér eller email
- Opret stored process
- Modificér program properties



Tilpas programeditor

Autocomplete kan slås fra/til...



Omarrangér vinduer

The screenshot illustrates the process of arranging windows in SAS Enterprise Guide. The 'View' menu is open, and the 'Stacked' option is highlighted with a red circle. Below the menu, the 'Project Designer' window for 'c02s2d1' is shown, containing SAS code and its output.

```

1 data work.staff;
2   infile 'c:\workshop\winsas\prog1\emplist.dat'; *PC and Unix;
3   *infile '.prog1.rawdata(emplist)'; *TSO;
4   input LastName $ 1-20 FirstName $ 21-30
5         JobTitle $ 36-43 Salary 54-59;
6 run;
7

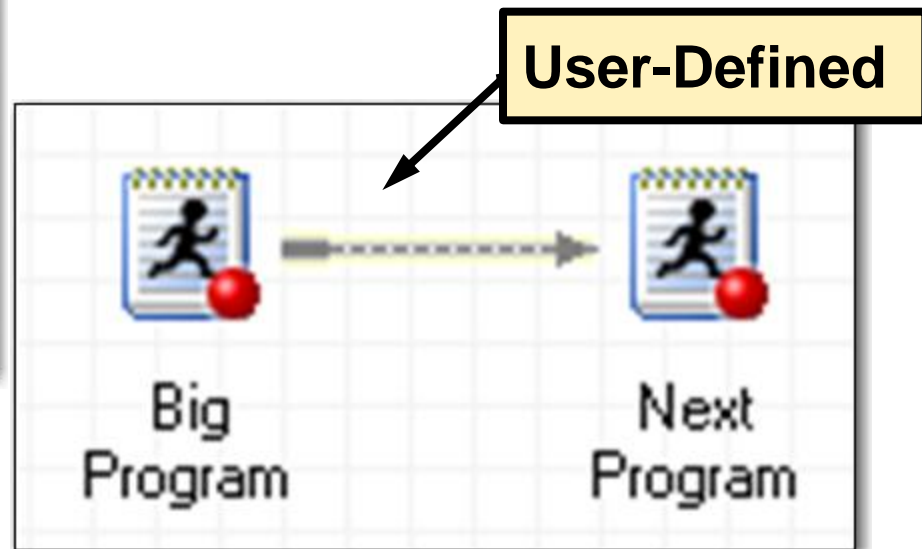
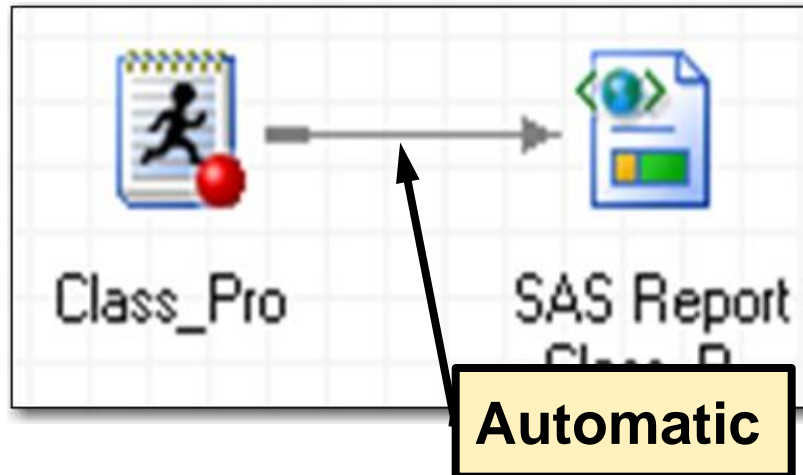
```

The output window displays the following table:

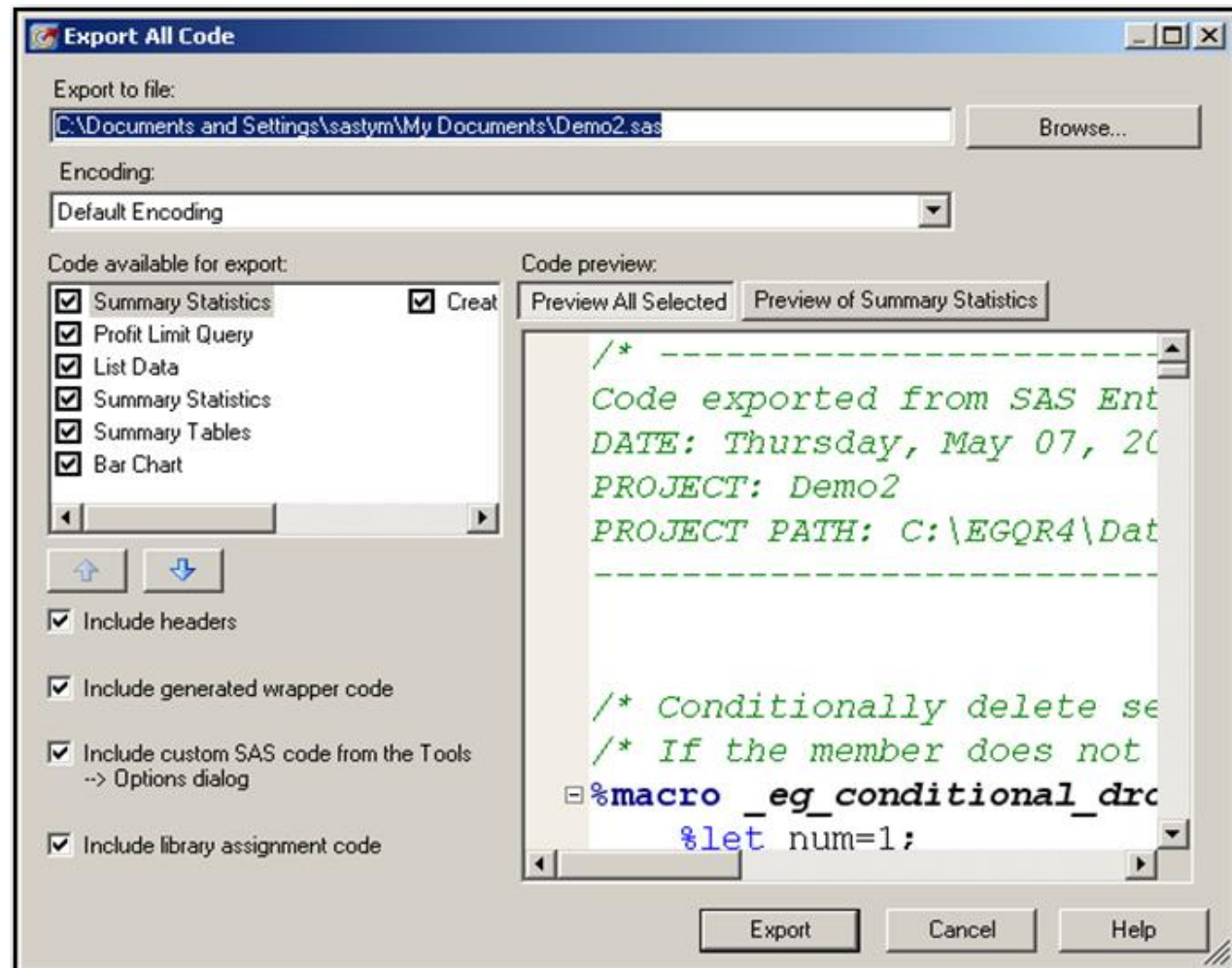
Obs	LastName	FirstName	JobTitle	Salary
1	TORRES	JAN	Pilot	50000
2	LANGKAMM	SARAH	Mechanic	80000
3	SMITH	MICHAEL	Mechanic	40000

Linking

Du kan bestemme rækkefølge i programflowet.



Samle al kode i et .sas program



Vælg
File ⇒ **Export** ⇒
Export All Code
 in Project....

Projektlog

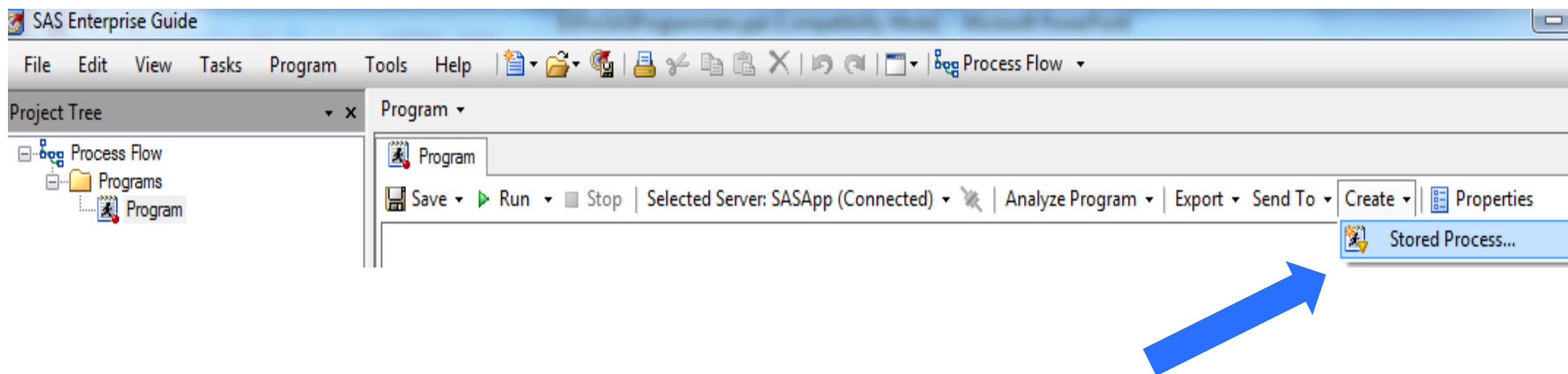
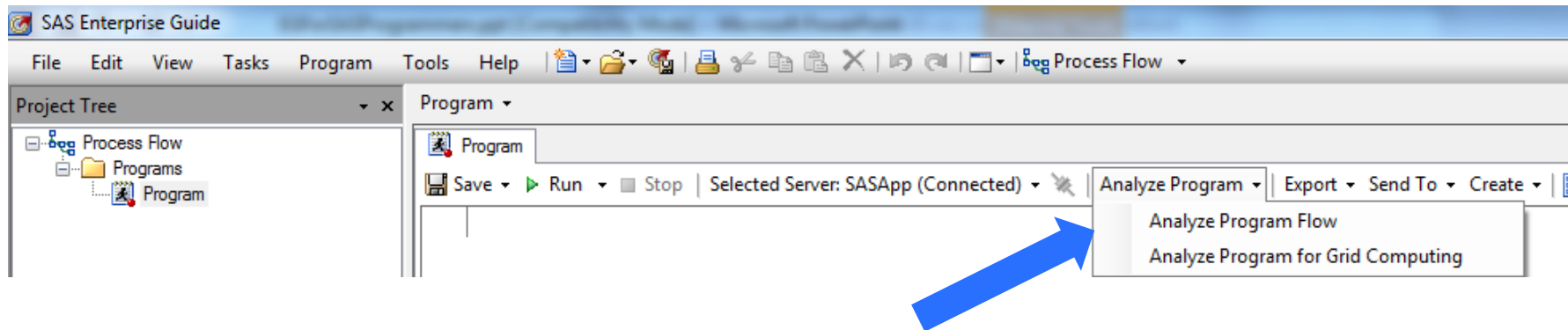
En aggregeret log.

The screenshot displays the SAS Project Log window. The top part shows a process flow diagram with four steps: 'Create Employee Organization', 'EMPLOYEE_...', 'Pie Chart', and 'SAS Report - Pie Cha'. The 'Project Log' button is highlighted. Below the flow, the 'Project Log' window is open, showing a list of log entries. The log is turned on and contains the following entries:

```

1 Project Log cleared at 4/6/10 2:57:53 PM
2 Log for "Create Employee Organization" run at 4/6/10 2:58:16 PM on Local
63 Log for "Pie Chart" run at 4/6/10 2:58:17 PM on Local
64 1          ;*;*";*//quit;run;
65 2          OPTIONS PAGENO=MIN;
66 3          %LET _CLIENTTASKLABEL='Pie Chart';
67 4          %LET _CLIENTPROJECTPATH='S:\workshop\es01e04s.egg';
68 5          %LET _CLIENTPROJECTNAME='es01e04s.egg';
69 6
70 7          ODS _ALL_ CLOSE;
71 8          ODS NOPROCTITLE;
72 9          OPTIONS DEV=ACTIVEX;
73 NOTE: Procedures may not support all options or statements for all devices. For details, see
74       the documentation for each procedure.
75 10         GOPTIONS XPIXELS=0 YPIXELS=0;
76 11         FILENAME
  
```

Programanalyse & stored processes



Drag & drop rapportdesign

integration med SAS Web Report Studio

The screenshot displays the SAS Web Report Studio interface. The main window shows a report titled 'Report1' in 'Normal View' mode. The report content is a bar chart titled 'Bar Chart' with the y-axis labeled 'Frequency'. The chart has two bars: a green bar with a frequency of 9 and an orange bar with a frequency of 10. The x-axis is unlabeled.

An 'Edit Report Contents' dialog box is open in the foreground. It has two main sections: 'Select SAS items:' and 'Report layout:'. In the 'Select SAS items:' section, 'Bar Chart' and 'List Data' are listed, with 'Bar Chart' selected. In the 'Report layout:' section, a grid is shown with a 'Bar Chart' icon in the top-left cell. To the right of the grid are navigation arrows (up, down, left, right) and a close button (X). At the bottom of the dialog is an 'Insert Text...' button.

The background interface includes a 'Project Tree' on the left showing a hierarchy: Process Flow > CLASS > List Data > Bar Chart, and Custom Reports > Report > Report1. Below the Project Tree is a 'Server List' panel with buttons for 'Refresh', 'Disconnect', and 'Stop', and a list of servers from CI2 to CI9.

Programmering man skal undgå

- DEBUG, PROC FSLIST, AF
- ABORT eller ENDSAS stopper kommunikation mellem SAS Enterprise Guide og SAS server.

Demo

- Skriv SAS program med ny procedure – SGPLOT
- Vis syntakshjælp og code completion
- Tilføj prompt (%let)
- Byg dynamisk rapport (stored process) og åbn i Excel