

# Macros In SAS Enterprise Guide

TASS-I, Sept 15, 2011

Rupinder Dhillon

# Some ways to use Macros in EG

- Using Macros in code
- Automatic macro variables available to your EG session
- Macros disguised as Prompts
- Using %syslast
- Using the Autoexec flow in your projects

# Some ways to use Macros in EG

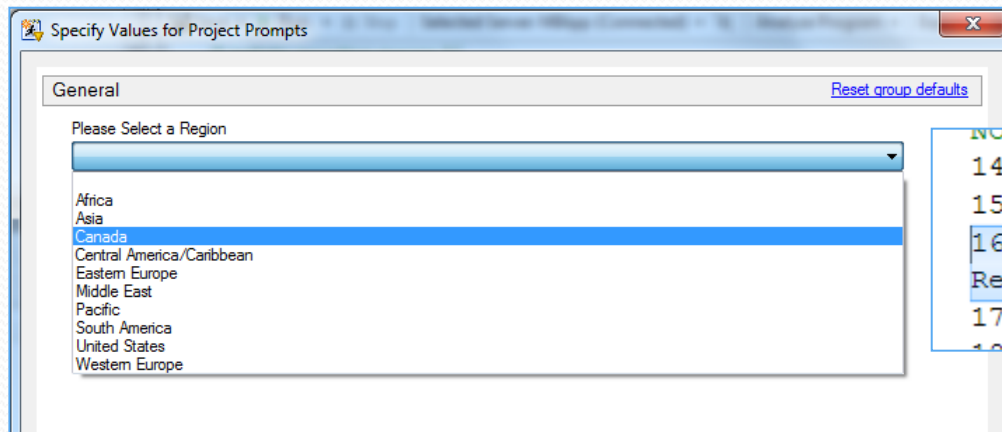
- Using Macros in code
- Macros disguised as Prompts
- **Automatic macro variables available to your EG session**
- **Using %syslast**
- **Using the Autoexec flow in your projects**

# What is a Macro Variable?

- In a nutshell: text substitution
- Once a macro variable is defined and given a value, '&' is used to resolve the macro variable; it will replace the macro variable with the corresponding value stored in the macro processor
  - We define a macro variable called Rundate and give it a value
    - Call `symput ('rundate', put(today(), date9.)) <- 15Sep2011`
  - Wherever we see a `&Rundate.`, SAS replaces it with `15Sep2011`

# Most common use of Macros in EG: Prompts

- Prompts allow you to take input from a user and then store the value of that input in macro variables
- These macro variables can then be used throughout your project



```
NOTE: Writing TAGSETS.SASREPORT12 (EGSR) BOO  
14  
15          GOPTIONS ACCESSIBLE;  
16          %put Region is &region.;  
Region is Canada  
17  
18          GOPTIONS NOT ACCESSIBLE;
```

# Automatic Macro Variables

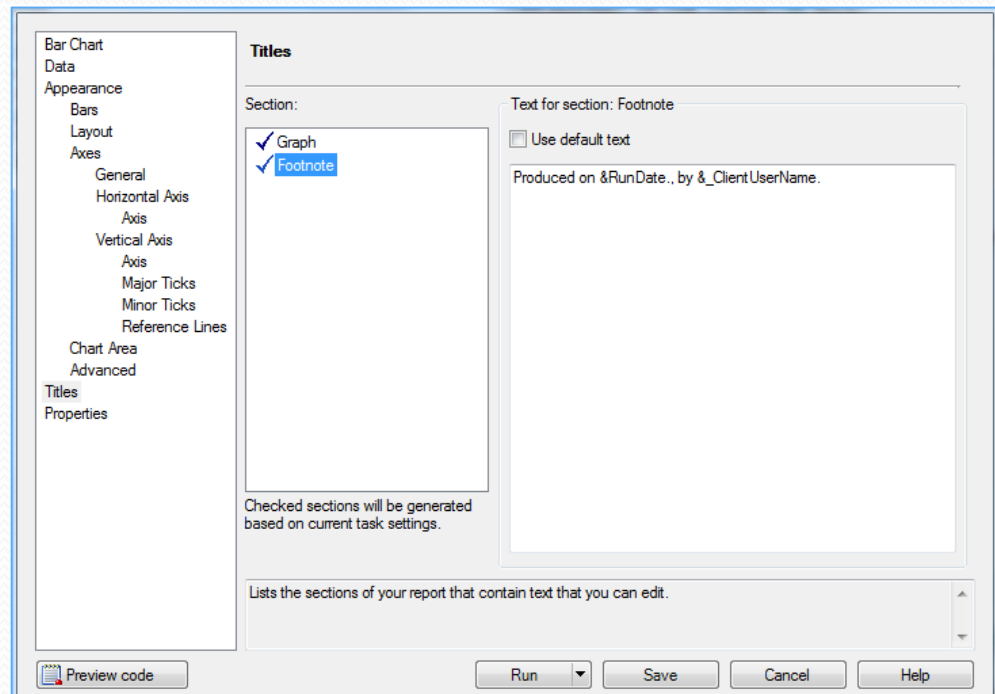
- Your EG session will generate some useful automatic macro variables
- These include:
  - GLOBAL\_CLIENTUSERID 'rdhillon'
  - GLOBAL\_CLIENTAPP 'SAS Enterprise Guide'
  - GLOBAL\_CLIENTUSERNAME 'RupinderDhillon'
  - GLOBAL\_CLIENTTASKLABEL 'Monthly Shoes Report'
  - GLOBAL\_CLIENTPROJECTNAME 'Monthly Shoes Report.egp'

# Automatic Macro Variables - How can these be used?

Customizing your output in code or in your tasks

```
data test;
set sashelp.shoes;
run;

footnote1 h=2 j=c "Produced on &RunDate., by &_ClientUserName.";
PROC GCHART DATA=WORK.Test
;
VBAR Region /
SUMVAR=Sales
CLIPREF
FRAME TYPE=SUM
COUTLINE=BLACK
RAXIS=AXIS1
MAXIS=AXIS2
;
RUN; QUIT;
```



# Automatic Macro Variables - How can these be used?

Debugging your multi step Projects – using %put.

```
%put Beginning of &_ClientTaskLabel.;
```

```
data test;  
set sashelp.moreshoes;  
run;
```

```
footnote1 h=2 jc "Produced on &RunDate., by &_ClientUserName.";
```

```
PROC GCHART DATA=WORK.Test  
;  
  VBAR Region /  
  SUMVAR=Sales  
  CLIPREF  
  FRAME TYPE=SUM  
  COUTLINE=BLACK  
  RAXIS=AXIS1  
  MAXIS=AXIS2  
;  
RUN; QUIT;
```

```
%put End of &_ClientTaskLabel.;
```

```
Monthly Shoes Report  
Program* Log Output Data Results  
Export Send To Create | Project Log Properties  
13  
14 GOPTIONS ACCESSIBLE;  
15 %put Beginning of &_ClientTaskLabel. ;  
Beginning of 'Monthly Shoes Report'  
16  
17 data test;  
18 set sashelp.moreshoes;  
ERROR: File SASHELP.MORESHOES.DATA does not exist.  
19 run;  
  
NOTE: Compression was disabled for data set WORK.TEST because compr  
NOTE: The SAS System stopped processing this step because of errors  
WARNING: The data set WORK.TEST may be incomplete. When this step  
WARNING: Data set WORK.TEST was not replaced because this step was  
NOTE: DATA statement used (Total process time):  
real time 0.00 seconds  
cpu time 0.00 seconds
```

# Automatic Macro Variables - How can these be used?

## Building in Auditing and Controls

```
/* Update Audit Table */
```

```
□ proc sql;  
  insert into AuditTable  
  set ProcessName = "&_CLIENTPROJECTNAME"  
  , RunDate = "&Rundate."  
  , RunBy = "&_ClientUserName."  
  , Status = 'Complete';  
quit;
```

AUDITTABLE ▾

Filter and Sort | Query Builder | Data ▾ | Describe ▾ | Graph ▾ | Analyze ▾ | Export ▾ | Send To ▾ | [1]

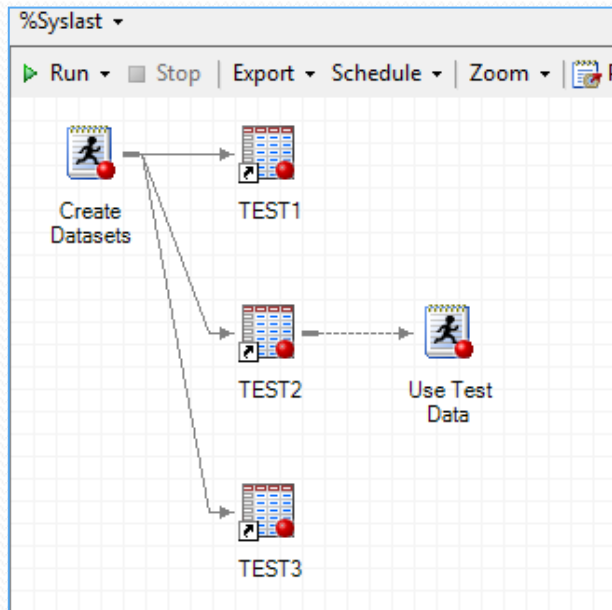
|   | ProcessName                | RunDate   | RunBy      | Status   |
|---|----------------------------|-----------|------------|----------|
| 1 | 'Monthly Shoes Report.egp' | 16SEP2011 | 'rdhillon' | Complete |
| 2 | 'Monthly Shoes Report.egp' | 31AUG2011 | 'rdhillon' | Complete |

# Automatic Macro Variables

- Others include:
  - GLOBAL \_CLIENTUSERID 'rdhillon'
  - GLOBAL \_SASHOSTNAME 'local'
  - GLOBAL \_CLIENTAPP 'SAS Enterprise Guide'
  - GLOBAL \_CLIENTUSERNAME 'RupinderDhillon'
  - GLOBAL \_CLIENTPROJECTPATH  
'C:\Users\rdhillon\Desktop\Monthly Shoes Report.egp'
  - GLOBAL \_SASPROGRAMFILE
  - GLOBAL \_CLIENTTASKLABEL 'Monthly Shoes Report'
  - GLOBAL \_SASSERVERNAME 'Local'
  - GLOBAL \_CLIENTPROJECTNAME 'Monthly Shoes  
Report.egp'
- Check out all your macro variables with %put \_all\_;

# Handy Trick with &syslast

- &syslast automatically stores the last dataset that you processed
- You can override what dataset name is stored in &syslast using links



```
Program*  
Save ▾ Run ▾ Stop | Selected Serv  
/* Output results */  
proc print data=&syslast;  
var Region Sales Stores;  
run;
```

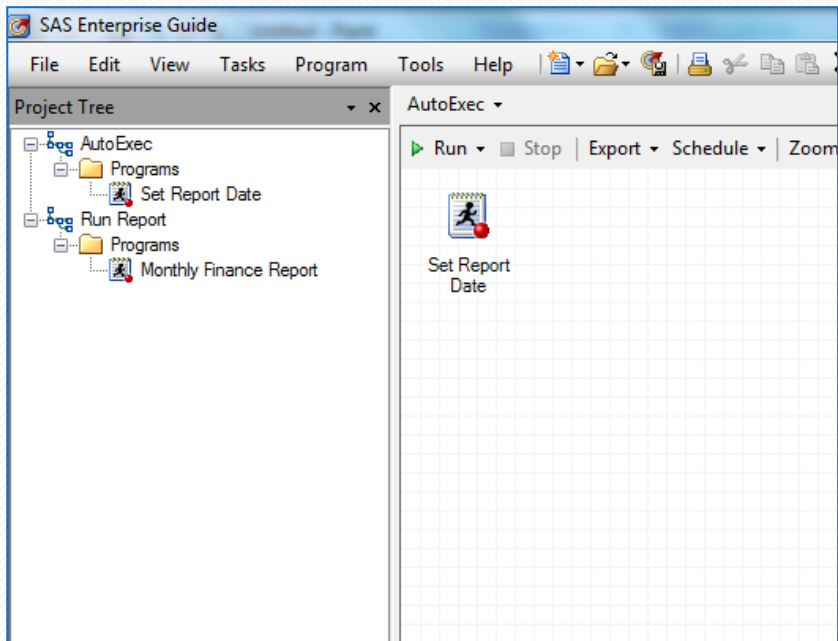
# Using Autoexec with Macros

When you include a flow called Autoexec in your project, it will run automatically whenever your project is opened. You can use this to initiate macro variables that you can use throughout your Project.

Set things like:

- Reporting Dates
- Report Titles
- Segments
- Or specify your autocall macro library location

# Using Autoexec with Macros



```
/* Initiate reporting macros */
```

```
/* Set Reporting Date */
```

```
data _Null_;
```

```
Extract_Start = intnx('month', today(), -1, 'b');
```

```
Extract_End = intnx('month', today(), -1, 'e');
```

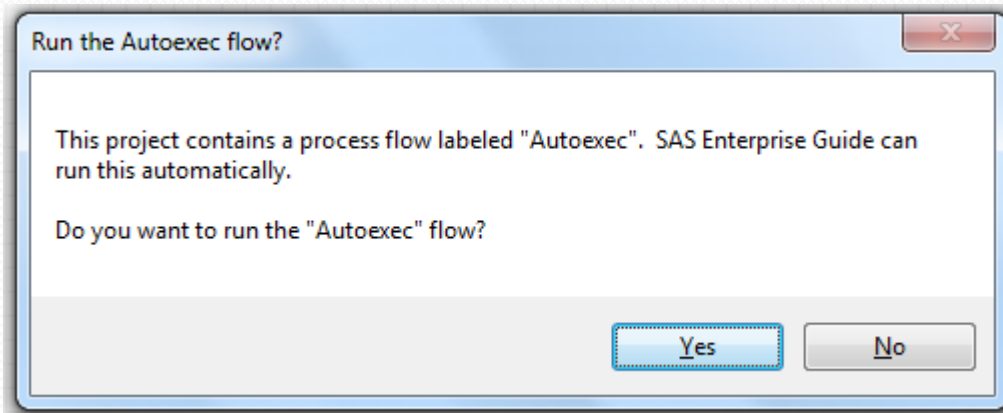
```
call symput('ExtractStart', put(Extract_Start, date9.));
```

```
call symput('ExtractEnd', put(Extract_End, date9.));
```

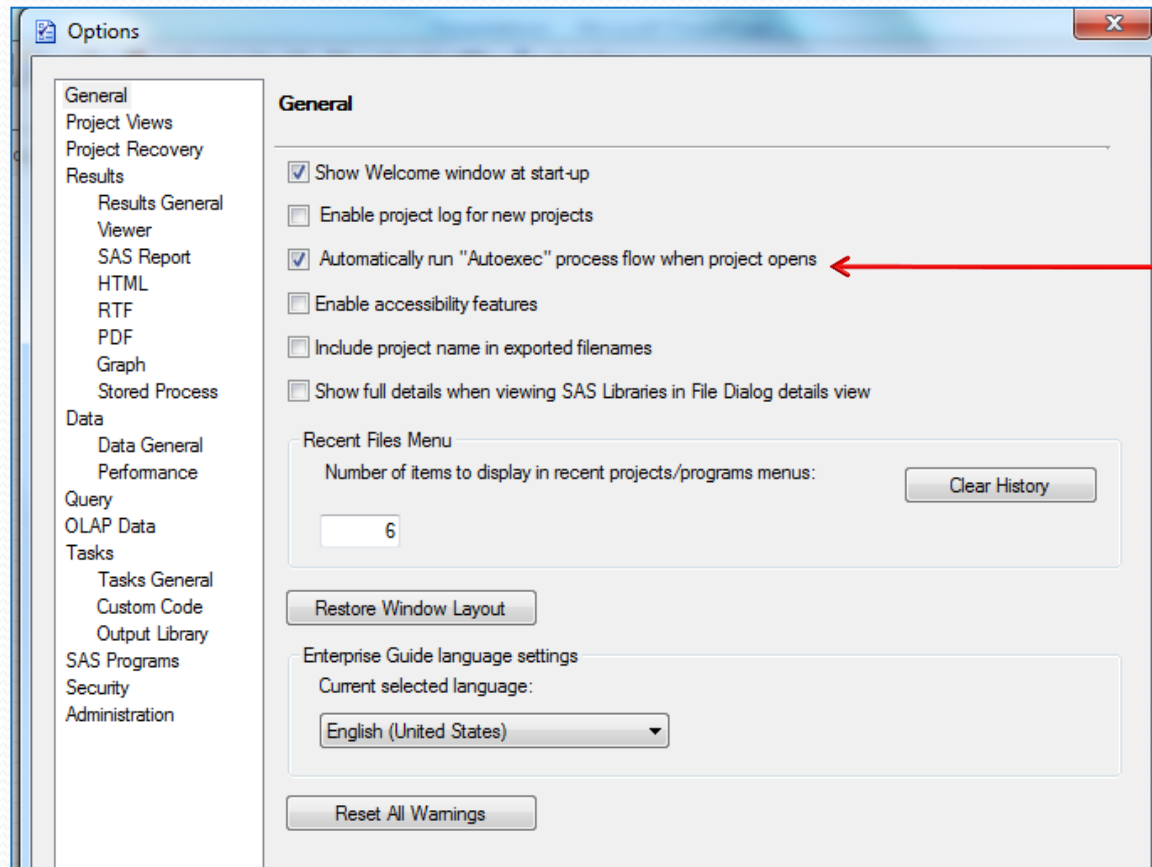
```
call symput('RunDate', put(today(), date9.));
```

```
run;
```

# Using Autoexec with Macros



# Using Autoexec with Macros



Select to bypass the prompt

# Enhance your projects; Get to know the basics

- SAS Macros for Beginners; <http://www2.sas.com/proceedings/sugi29/243-29.pdf>
- SAS Macro Variables and Simple Macro programs; <http://www2.sas.com/proceedings/sugi30/130-30.pdf>
- The SAS Dummy - <http://blogs.sas.com/content/sasdummys/tag/sas-enterprise-guide/>
- SAS Canada Community - <http://sascanada.ning.com/>

Contact Me: [rupinder@dhillonconsulting.com](mailto:rupinder@dhillonconsulting.com)