

Use HTML to Make Your Check Log Routine Efficient

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ABSTRACT

As a SAS programmer, you must be told to check your logs every time when you start to learn SAS. It seems simple when you just run one SAS programs and check the log by dragging scroll bar at the right side. However, we often need to batch run all the SAS programs in a clinical trial project. It is time-consuming and likely to miss important messages if you manually check the logs. In this paper, we provide a utility macro which can report the log check results in HTML format with links to SAS programs and logs. With its help, you can know your logs are clean or not immediately in one glance and open the original programs/logs by a quick click.

INTRODUCE

The purpose we check log is to make sure the SAS program is executed with no issues. You many have various methods or tools to check SAS logs. However, some tools can only help you to check logs one by one, it is not efficient when you have dozens of or even hundreds of logs. And some tools only give you a summary about the issues, so you still need to find the programs manually and resolve it. As a lead programmer, you many take huge pressure after database updated since you need batch run all your programs and make sure all the logs are clean in a very short time. Here we provide a macro to make the log check summary like a navigation page which can point you exactly to the logs and SAS programs with issues, if all the logs are clean, you can know it in a second. In the meanwhile, this summary can also be archived as a documentation.

FUNDAMENTAL OF THE MACROS

MACRO PARAMETER EXPLANATION

Totally there are two parameters of the macro `%mchklog`.

- 1) **Path**: This is the paths of your logs. You can specify as many as paths you want. For example, you can list all the SDTM, ADaM, TLGs program folders and separate them with a space.
- 2) **Chkout**: This is the path and name of your log check summary. Please be note that the macro will output a summary with add suffix “.html” to &chkout.

Example calls:

```
%mchklog(path=%bquote(&root. ),
          chkout=%bquote(&root.\chk_log_&sysdate9.));
%mchklog(path=%str(M:\Projects\XXX\dev\pg\tables
                  M:\Projects\XXX\dev\pg\ads),
          chkout=%str(M:\Projects\XXX\dev\pg\other\chk_log));
```

TYPE OF LOGS TO BE IDENTIFIED

The macro will scan every log in the paths and identify below messages, then store them together with log filename in a SAS dataset.

- ERROR
- WARNING

- MORE THAN ONE DATA SET WITH REPEATS OF BY VALUES
- MERGE STATEMENT HAS MORE
- UNINITIALIZED
- MISSING VALUES WERE GENERATED
- CHARACTER VALUES
- NUMERIC VALUES
- AT LEAST ONE W.D FORMAT TOO SMALL
- ATTN
- VALUE IS NOT ON GRAPH
- CHARACTER VARIABLES HAVE DEFAULTED TO A LENGTH OF 200
- OUTSIDE THE AXIS RANGE
- MATHEMATICAL OPERATIONS COULD NOT
- DIVISION BY ZERO DETECTED DURING THE COMPILATION PHASE
- WILL BE OVERWRITTEN BY
- WAS NOT FOUND OR COULD NOT BE LOADED

LOG CHECK SUMMARY

At the end of execution, the macro will report the summary in HTML format, with link to the path and to SAS programs and logs. Please see Figure 1, on the top of the summary, there is a path with hyperlink which point to the folder you checked ([E:\TEMP\Xin_Wang](#)). On the left of the summary, there are two columns with hyperlink which point to the SAS program and log. For example, you can click [V0AE.log](#) to open the log and check the detail information, then you can click [V0AE.sas](#) to open the program and fix it.

Our human brain process picture faster than text. Therefore, we made the macro reports the message with same color as SAS log, so you can know where has issues with just one glance. Also, you can know your logs are clean with one glance since it looks totally different with the report contains issues. Please see Figure 2.

Checking all log files in the following directory
[E:\TEMP\Xin_Wang](#)

SAS Program	LOG file	Information
V0AE.sas	V0AE.log	ERROR: Errors printed on page 2.
		ERROR: this is a test error message.
		NOTE: Division by zero detected during the compilation phase, detected at line 22 column 7.
		NOTE: Numeric values have been converted to character values at the places given by:
		NOTE: Variable s is uninitialized.
V0CM.sas	V0CM.log	ERROR: Errors printed on page 1.
		ERROR: this is a test error message.
		WARNING: The variable x in the DROP, KEEP, or RENAME list has never been referenced.
V0DM.sas	V0DM.log	Clean
V0DS.sas	V0DS.log	Clean
V0EG.sas	V0EG.log	Clean
V0EX.sas	V0EX.log	Clean
V0FA.sas	V0FA.log	Clean
V0IE.sas	V0IE.log	Clean
V0LB.sas	V0LB.log	Clean

Figure 1. Log Check Summary with Issues

Checking all log files in the following directory
E:\TEMP\xin.wang

SAS Program	LOG file	Information
V0AE.sas	V0AE.log	Clean
V0CM.sas	V0CM.log	Clean
V0DM.sas	V0DM.log	Clean
V0DS.sas	V0DS.log	Clean
V0EG.sas	V0EG.log	Clean
V0EX.sas	V0EX.log	Clean
V0FA.sas	V0FA.log	Clean
V0IE.sas	V0IE.log	Clean
V0LB.sas	V0LB.log	Clean
V0MH.sas	V0MH.log	Clean
V0PC.sas	V0PC.log	Clean
V0PE.sas	V0PE.log	Clean
V0PR.sas	V0PR.log	Clean
V0QS.sas	V0QS.log	Clean
V0RELREC.sas	V0RELREC.log	Clean
V0RS.sas	V0RS.log	Clean
V0SE.sas	V0SE.log	Clean
V0SV.sas	V0SV.log	Clean
V0TA.sas	V0TA.log	Clean
V0TE.sas	V0TE.log	Clean
V0TI.sas	V0TI.log	Clean
V0TR.sas	V0TR.log	Clean
V0TS.sas	V0TS.log	Clean
V0TU.sas	V0TU.log	Clean
V0TV.sas	V0TV.log	Clean
V0VS.sas	V0VS.log	Clean
V0XE.sas	V0XE.log	Clean

Figure 2. Log Check Summary without Issues

EXECUTION NOTES

There are some execution notes you may need to be aware:

- You can batch this check log program together with your other programs as long as you set up the path.
- If your SAS program create a log file with different filename, then the macro cannot recognize this situation and will display a wrong SAS program name. But the link still works for log file, you can use it to check logs anyway.
- If your SAS log has some modeling issues due to data, you do not need to create a separate file to document this. You can edit this HTML file in WORD and add a column on the right to explain it. The HTML file can be your final documentations.

CONCLUSION

Hopefully this paper can give you an inspiration on how to use HTML to summary your log check results. You can modify it based on your own environment.

REFERENCE

Carpenter, Art,2007, "Advanced PROC RPORT: Getting your Tables Connected Using Links",

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