

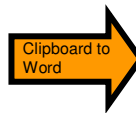
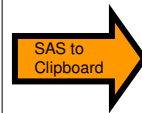
Automatic Conversion of SAS „Enhanced Programs” to PDF

Dirk Spruck, Accovion, Germany

Piia-Piret Eomois, German Cancer Research Center, Germany



```
SAS - [example1.sas *]
File Edit View Tools Run Solutions Window Help
1 -----
2 *) Example;
3 -----
4 data _null_;
5
6   event= "PhUSE 2009";
7   start= "18Oct2009"d;
8   end= "21Oct2009"d;
9
10  put (_all_) (=);
11
12  format start end date9.;
13  run;
14
15
16
17
```



```
Document3 - Microsoft Word
File Edit View Insert Format Tools Table Window
Final Showing Markup Show
1 1 2 1 4 1 6 1 8 1 10 1 12 1 14 1 16 1 18 1 20
-----
*) Example;
data _null_;
  event= "PhUSE-2009";
  start= "18Oct2009"d;
  end= "21Oct2009"d;
  put (_all_) (=);
  format start end date9.;
  run;

```



```
Adobe Reader - [program library.pdf]
File Edit View Document Tools Window Help
Save a Copy Search Select
13
-----
*) Example;
data _null_;
  event= "PhUSE 2009";
  start= "18Oct2009"d;
  end= "21Oct2009"d;
  put (_all_) (=);
  format start end date9.;
  run;

```

COPY CODE FROM SAS ENHANCED EDITOR TO CLIPBOARD

```
dm 'whostedit;
  include "<insert program name here>";
  EDCMD selectall;
  EDCMD copy;
  EDCMD winclose;'
```

- ❶ WHOSTEDIT:
Open a new Enhanced Editor window.
- ❷ INCLUDE:
Load the specified SAS program into the Enhanced Editor window.
- ❸ EDCMD SELECTALL:
Select all code in the Enhanced Editor window.
- ❹ EDCMD COPY:
Copy the selected code to the paste buffer.
- ❺ EDCMD WINCLOSE:
Close the Enhanced Editor window.

CONVERT TEXT TO RTF

```
x 'insert pathname here\winword.exe';
filename worddoc dde 'WinWord\System';
data _null_;
  file worddoc;
  *** copy the program to Word;
  put '[StartOfDocument]';
  put '[EditPaste]';
  *** change font size;
  put '[EditSelectAll]';
  put '[FontSize 8]';
  *** change page margins;
  put '[FilePageSetup.LeftMargin="1IN"]';
  put '[FilePageSetup.RightMargin="1IN"]';
```

- ❶: Start Microsoft Word using the X command and open the Dynamic Data Exchange (DDE) channel between SAS and the application in the filename statement.
- ❷: Send Visual Basic commands through the DDE channel to create a new document and to paste the SAS code from the clipboard into the new document.
- ❸: Customize font size and margins.

CONVERT RTF TO PS and PDF

```
*** print document to PS file;
put "[FilePrint"
  ".PrintToFile=1, "
  ".PrToFileName="
  "insert Postscript filename", "
  ".OutputPrinter="
  "PS printer driver"]";
put '[FileCloseAll 2]';
put '[AppClose]';
run;
filename worddoc clear;
```

- ❶: Send file to a Postscript printer device.
The PrintToFile= 1 command is responsible that a PS file is created instead of a printed paper copy.
- ❷: Close all open files and end the Word application.

The resulting Postscript file can automatically be converted to PDF using tools like Ghostscript.

More Info

Details are described in paper PO13 (PhUSE 2009). For additional questions you can contact the authors:

Dirk Spruck
Phone: +49 6421 9484937
dirk.spruck@accovion.com

Piia-Piret Eomois
Phone: +49 6221 422215
p.eomois@dkfz.de

Summary

Code in the Windows SAS Enhanced Editor is color coded, which increases readability. Although in SAS version 9.1 log-Files can be saved as RTF documents SAS programs can **not** be saved directly as RTF documents to preserve the color coding. This poster describes a process to programmatically convert programs to PDF via RTF/Word and Postscript using DDE technology. PDFMARK language can be added to Postscript files, e.g. to add bookmarks to the PDF document. The conversion from Postscript to PDF can be done using free software like Ghostscript.