

## The 10 Most Frequently Asked Questions of the Output Delivery System

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## Introduction to ODS

- The Output Delivery System has two major components:
  - The Data Component
  - The Table Definition

## The Data Component

- Each procedure that supports ODS and the data step produce one or more data components
- Data components contain results of the step

## The Table Definition

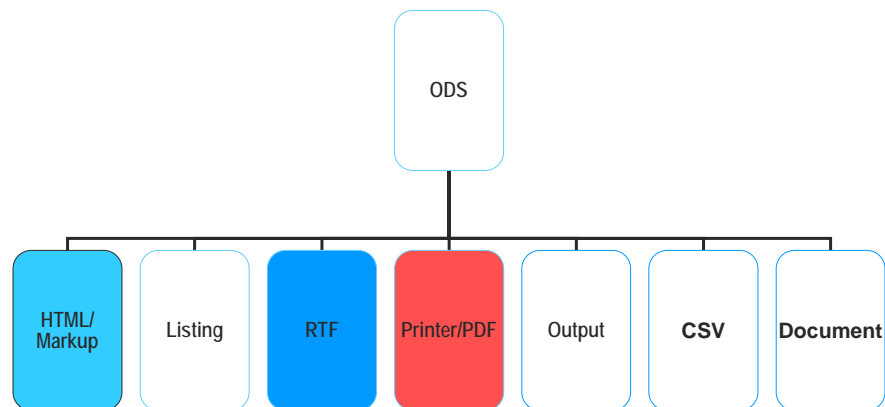
- Describes how to render the tabular data component
- Allows the defaults of procedures to be modified.

## The Making of an Output Object

- ODS binds a table definition to a data component in order to produce an output object
- Contains both the results from the procedure or data step and instructions on how to render

**DATA COMPONENT+TEMPLATE DEFINITION**

## ODS Destinations



## How Has ODS Changed SAS?

- Most procedures can now generate output data sets
- No longer have to accept the defaults of procedures
- The ability to generate files in many formats

## #10 How Can I Generate Drill-Downs in SAS?

- Using the URL= Style attribute
- Building the appropriate tags in the data set
- Call Define statement of PROC REPORT
- Using Control data sets of PROC FORMAT

## Syntax

```
ODS HTML file="temp.html";  
ODS RTF file="temp.rtf";  
ODS PDF file="temp.pdf";  
  
proc print data=sashelp.class;  
var age / style={url=http://www.sas.com};  
run;  
ODS _ALL_ CLOSE;
```

## #9 Why Aren't My Data Sets Created when using ODS Output?

- The output object specified is not correct
- The ODS Statement is not a step boundary
- Specified the NOPRINT option on procedure
- Use ODS TRACE statement to dump output object

## #8 How Can I Ensure Frames or Images Link When Moved or E-mailed?

- Relative links are generated using the PATH= option along with the URL= sub-option
- Relative links allow files to be more dynamic
- Non Internet Explorer browsers work well with relative links
- Specifying relative links suggested for graphics

## Syntax

```
ODS HTML PATH="C:\"(url=none);  
BODY="Body.html"  
CONTENTS="Cont.html"  
FRAME="frame.html";  
proc print data=sashelp.class;;  
run;  
ODS HTML CLOSE;
```

### ABSOLUTE PATH

```
<FRAME SRC="c:\contents.html" NAME="contents" >
```

```
<FRAME SRC="c:\body.html" NAME="body" >
```

### RELATIVE PATH

```
<FRAME SRC="contents.html" NAME="contents" >
```

```
<FRAME SRC="body.html" NAME="body" >
```

## #7 How Can I Add Multiple Tables or Graphs on a Page?

- Using the Columns= option for ODS PDF and RTF
- The ODS HTMLPANEL tagset can be used for HTML
- Generating output using ODS Layout for PDF

## #6 How Can I Add Images to My Output?

- Images are added before and after the table using the PREIMAGE/POSTIMAGE attributes
- The BACKGROUNDIMAGE= attribute is used to add background images
- The syntax for adding the images to the beginning of the document can differ according to destination

## Adding Images to Beginning of Document

```

PROC TEMPLATE;
  DEFINE STYLE STYLES.IMAGE;
    PARENT=STYLES.DEFAULT;
    STYLE BODY FROM BODY /
      PREHTML=`<TABLE><TD ALIGN="CENTER"><IMG
        SRC="TEMP.GIF"></TD></TABLE>`;
  END;
RUN;

ODS HTML FILE="TEMP.HTML" STYLE=STYLES.TEST;
PROC PRINT DATA=SASHELP.CLASS;
RUN;
ODS HTML CLOSE;

```

## Adding Images with RTF

```
ODS ESCAPECHAR="^";  
ODS RTF FILE="TEMP.RTF";  
  
PROC PRINT DATA=SASHELP.CLASS;  
TITLE '^S={PREIMAGE="IMAGE.GIF"}';  
TITLE2 'This is a title';  
RUN;  
  
ODS RTF CLOSE;
```

## #5 Why am I Getting Errors When Creating Templates ?

- Multiple SAS sessions opened on windows
- The -RSASUSER option has been set

**ERROR:** Template 'Styles.Test' was unable to write to  
template store!

## #4 How Can I Traffic-Light with SAS?

- Traffic-lighting is the ability to change attributes based on a condition
- One of the easiest techniques for traffic-lighting is to use formatting
- The DATA step or procedures with underlying table templates can use the CELLSTYLE statement
- PROC REPORT can use the CALL DEFINE statement and formatting

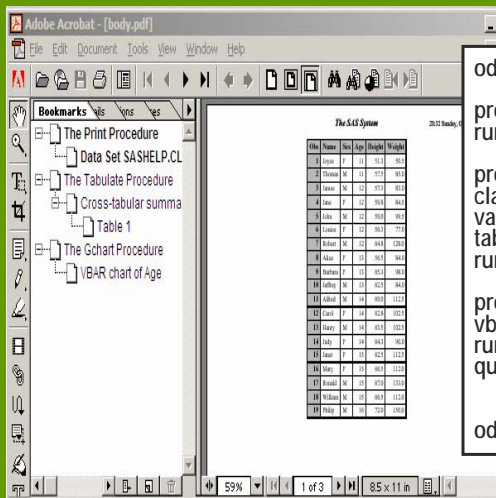
## #3 How Can I Freeze Column Headers?

- HTML has no concept of pages so column headers don't repeat in the browser
- This is also true when printing from the browser

## #2 How Can I Make Entries in the TOC More Descriptive?

- ODS PROCLABEL statement
- CONTENTS= option for the PRINT, REPORT, TABULATE and FREQ
- CONTENTS\_LABEL= attribute in the table templates
- DESCRIPTION= option for Graphics
- The ODS Document facility

## Default Bookmarks

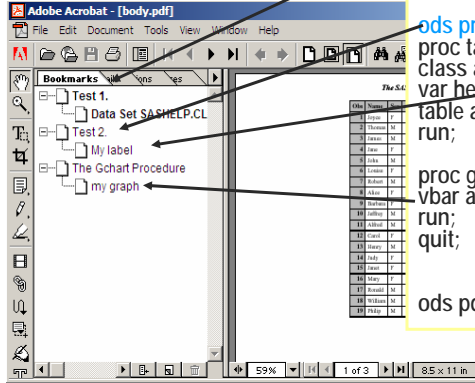


```
ods pdf file="c:\body.pdf";
proc print data=sashelp.class;
run;

proc tabulate data=sashelp.class;
class age sex;
var height weight;
table age*sex,weight;
run;

proc gchart data=sashelp.class;
vbar age;
run;
quit;

ods pdf close;
```



```
ods pdf file="c:\body.pdf";
ods proclabel "Test 1.";
proc print data=sashelp.class;
run;

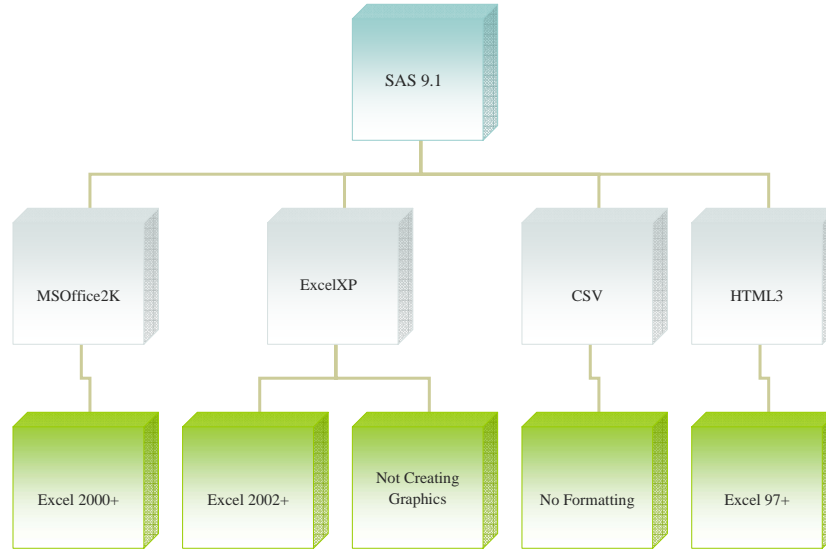
ods proclabel "Test 2.";
proc tabulate data=sashelp.class Contents="My label";
class age sex;
var height weight;
table age*sex,weight;
run;

proc gchart data=sashelp.class;
vbar age / des="my graph";
run;
quit;

ods pdf close;
```

## #1 Can I Create Files that Excel Can Read?

- Create XML file with the ExcelXP destination
- Generate CSV file using ODS CSV /ODS CSVALL
- Generate HTML using MSOffice2k in SAS 9.1 or ODS HTML prior to this release



## Generated Output

ExcelXP Output

Obs	Name	Sex	Age	Height	Weight
1	Alfred	M	14	69	112.5
2	Alice	F	13	56.5	84
3	Barbara	F	13	65.3	98
4	Carol	F	14	62.8	102.5
5	Henry	M	14	63.5	102.5
6	James	M	12	57.3	83
7	Jane	F	12	59.8	84.5
8	Janet	F	15	62.5	112.5
9	Jeffrey	M	13	62.5	84
10	John	M	12	59	99.5
11	Joyce	F	11	51.3	50.5
12	Carol	F	14	64.3	90
13	Louise	F	12	56.3	77
14	Mary	F	15	66.5	112
15	Philp	M	16	72	150
16	Robert	M	12	64.8	128
17	Ronald	M	15	67	133
18	Thomas	M	11	57.5	85
19	William	M	15	66.5	112

CSV Output

Name	Sex	Age	Height	Weight	
1	Joyce	F	11	51.3	50.5
2	Thomas	M	11	57.5	85
3	James	M	12	57.3	83
4	Jane	F	12	59.8	84.5
5	John	M	12	59	99.5
6	Louise	F	12	56.3	77
7	Robert	M	12	64.8	128
8	Alice	F	13	56.5	84
9	Barbara	F	13	65.3	98
10	Jeffrey	M	13	62.5	84
11	Alfred	M	14	69	112.5
12	Carol	F	14	62.8	102.5
13	Henry	M	14	63.5	102.5
14	Judy	F	14	64.3	90
15	Janet	F	15	62.5	112.5
16	Mary	F	15	66.5	112
17	Ronald	M	15	67	133
18	William	M	15	66.5	112
19	Philp	M	16	72	150

## (HM) How Can I Create Landscaped Output?

- The SAS system option `Orientation=Landscape` can be used to create landscaped output

## (HM) Can I Create XML Files with SAS?

- The XML LIBNAME engine
- The ODS Markup Language

## TS Resources

- Go to the TS home page to get SAS Notes, TS Notes, sample code, and FAQ's.
- Take advantage of the creating tracking entries by sending email to:  
support@sas.com

## ODS Resources

- The Base Community home page:  
<http://support.sas.com/rnd/base>
- The Training and Education division
- ODS@SAS.COM
- Community Forums
- Email: Chevell.Parker@sas.com