

Customer Value Updates

Rupinder Dhillon

Customer Value Consultant

Customer Values Updates....

- Canadian Newsletter – Insights
(www.sas.com/canada/newsletter)
- Customer Value Award
- Satisfaction Surveys
- Customer Value website – coming soon!
- SUGI 30 – Philadelphia (April 10-13, 2005)



What's New in SAS 9.1

Rupinder Dhillon
Customer Value Consultant

SAS System 9

- SAS 9 is built on four cornerstones:
 - **Usability**: bringing a consistent look and feel to SAS' entire suite of solutions and enabling easy access to your data.
 - **Manageability**: providing one flexible, centralized point of administration for users to deploy, monitor, maintain, upgrade, or expand a software solution or application.

continued...

SAS System 9

- **Interoperability**: expanding a software platform environment characterized by compatibility, connectivity, and support for open standards that enables diverse hardware and/or software to communicate with one another.
- **Scalability**: building on the current capabilities of SAS to deliver a software system that expands and adapts as your technology environment changes.

ODS Enhancements

- ODS introduced two new destinations in SAS 9:
 - MARKUP
 - **DOCUMENT**

Other new features were implemented in SAS System 9, including

- support for HTML 4.0
- **“Page X of Y” numbering for the RTF destination**

What Is ODS DOCUMENT?

The *ODS document store* is a new type of item store that allows the storage of the output, in raw (unformatted) form, after the procedure completes execution.

Use the ODS DOCUMENT statement to create documents and the Document window to manage and replay documents.

The ODS DOCUMENT Statement

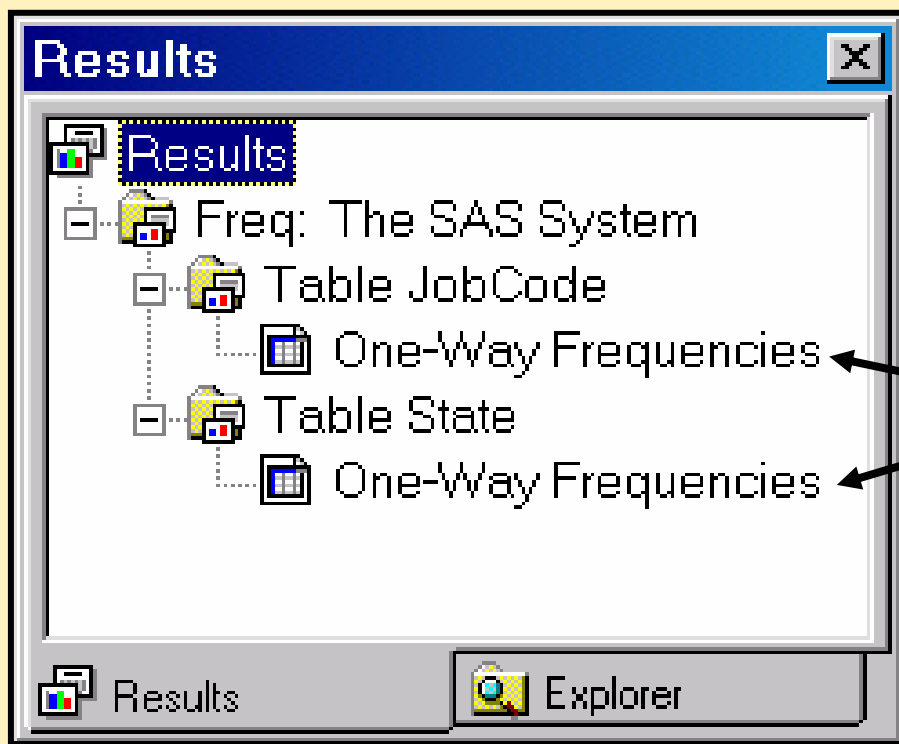
The ODS DOCUMENT statement captures the neutral output and, therefore, allows for multiple reports to be produced in various formats. The reports can be produced when you want without rerunning the SAS programs.

General form of the ODS DOCUMENT statement:

```
ODS DOCUMENT NAME=<libname.>mem-name;
```

The NAME= option identifies the SAS library where the document is to be stored and the name of the document. If it is omitted in the ODS DOCUMENT statement, the default name for the document is **work.newdoc**.

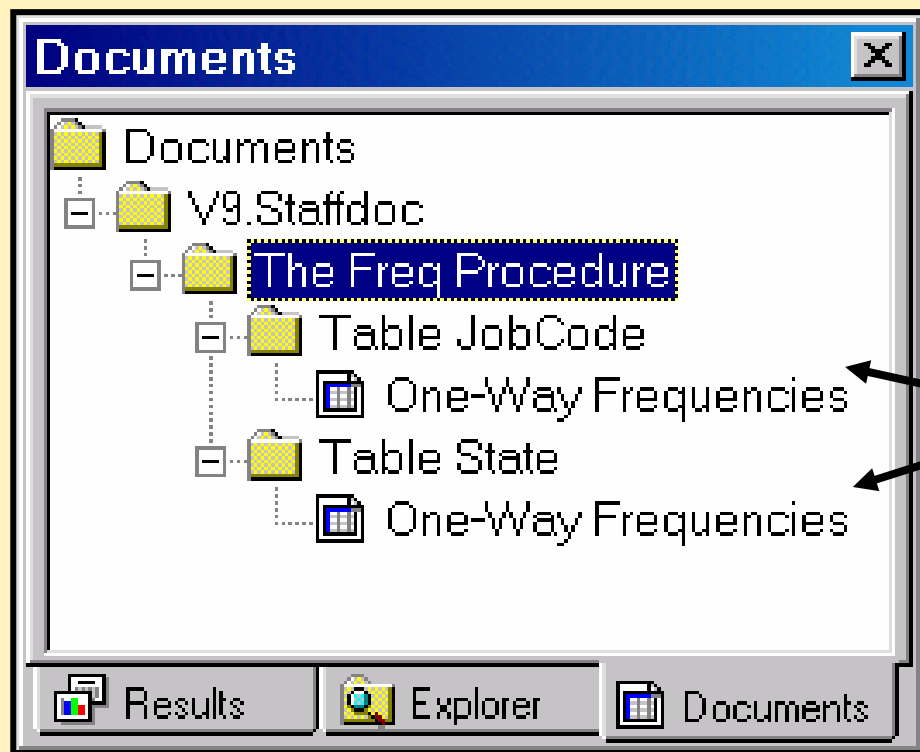

```
ods document name=v9.staffdoc ;  
proc freq data=v9.staff;  
  table JobCode state / nocum;  
run;  
ods document close;
```



Output objects (tables)

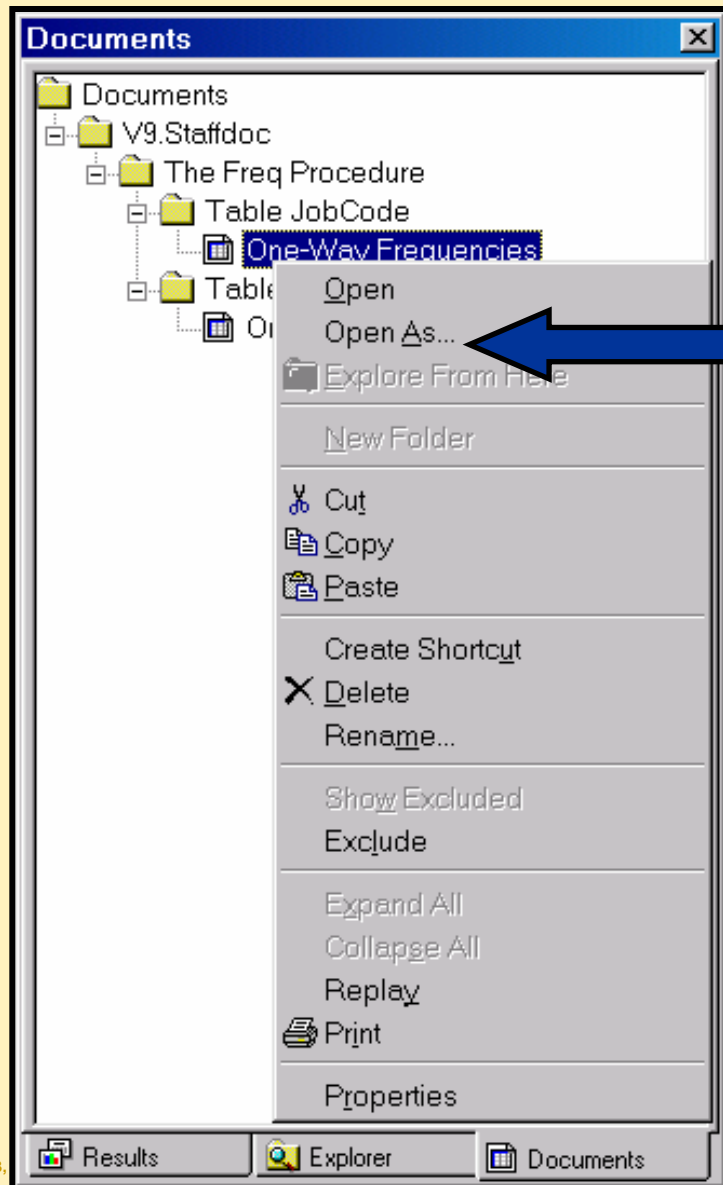
Documents Window

- Steps to access the Documents window:
 1. Activate the Results window.
 2. Select **View** from the menu bar.
 3. Select **Documents** from the View pull-down menu.



An ODS document is a hierarchy of output objects.

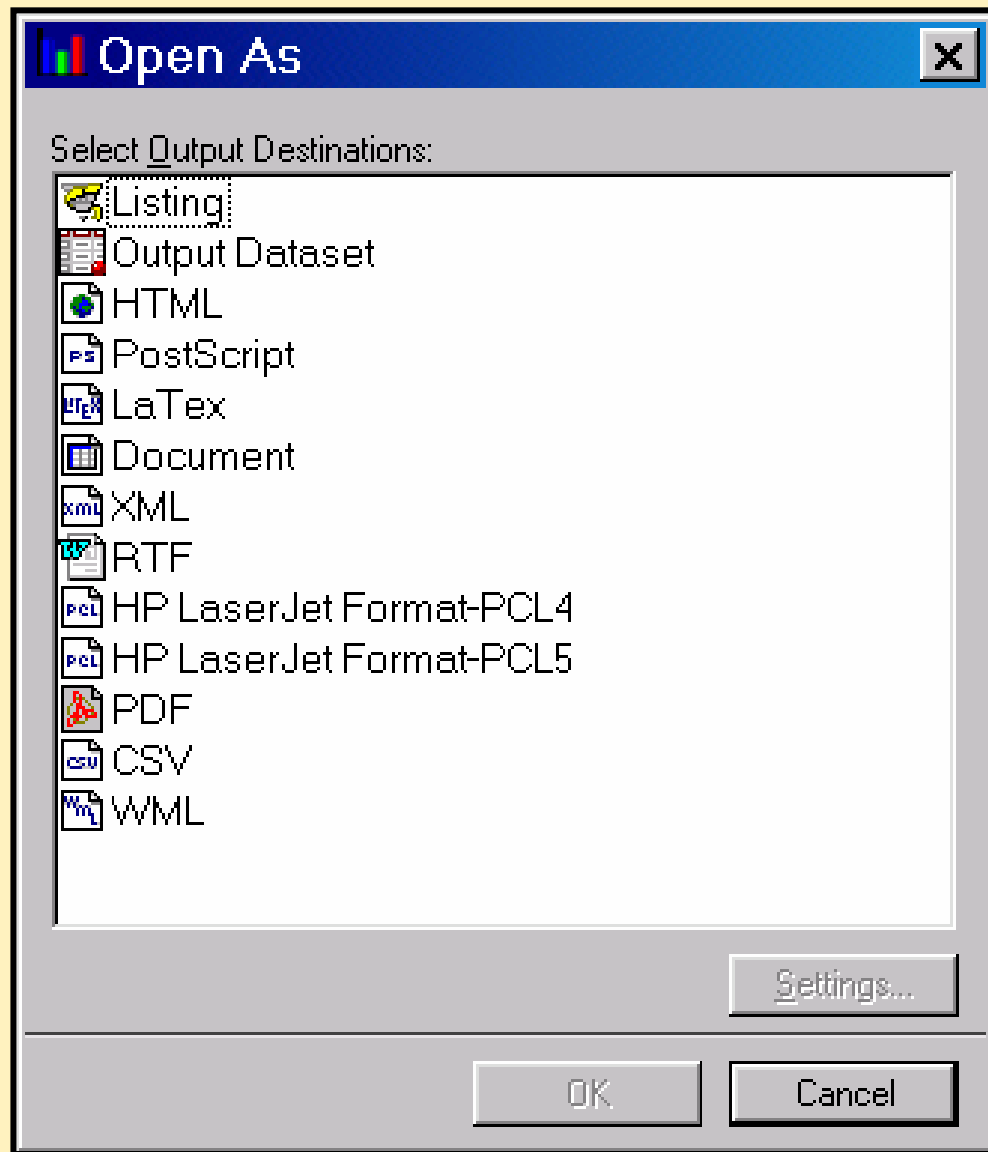
Documents Window



ODS DOCUMENT
dynamically rerenders
ODS output without
rerunning procedures
by using the Open As...
command.

Documents Window

- The Open As... command opens a window where one or more ODS destinations can be selected.



Generating "Page X of Y" Numbering

- The PAGEOF option in the TITLE or FOOTNOTE statement produces "Page X of Y" numbering for Word 2000 files.

```
ods escapechar '\';  
ods rtf file='pagenumber.rtf';  
proc print data=v9.staff;  
  title j=r 'Page \{pageof}';  
  title2 'Listing of Employees';  
run;  
ods rtf close;
```

- The PAGEOF option must be used in conjunction with the ODS ESCAPECHAR=. The escape character must precede the PAGEOF option.

Generating "Page X of Y" Numbering

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Listing of Employees

Obs	EmpID	LastName	FirstName	City	State	PhoneNumber	Gender
1	1919	ADAMS	GERALD	STAMFORD	CT	203.781.1255	M
2	1653	ALEXANDER	SUSAN	BRIDGEPORT	CT	203.675.7715	F
3	1400	APPLE	TROY	NEW YORK	NY	212.586.0808	M
4	1350	ARTHUR	BARBARA	NEW YORK	NY	718.383.1549	F
5	1401	AVERY	JERRY	PATERSON	NJ	201.732.8787	M
6	1499	BAREFOOT	JOSEPH	PRINCETON	NJ	201.812.5665	M
7	1101	BAUCOM	WALTER	NEW YORK	NY	586.806	M
8	1333	BLAIR	JUSTIN	STAMFORD	CT	203.781.1777	M
9	1402	BLALOCK	RALPH	NEW YORK	NY	718.384.2849	M
10	1479	BOSTIC	MARIE	NEW YORK	NY	718.384.8816	F
11	1403	BOWDEN	EARL	BRIDGEPORT	CT	203.675.3434	M
12	1739	BOYCE	JONATHAN	NEW YORK	NY	212.587.1247	M

Enhancements to the FORMAT Procedure

- With the FORMAT procedure, it is now possible to create formats and informats with longer names.
- Format names for character and numeric formats can have a maximum length of **32**, which includes the **\$** for character names.
- Partial SAS Log

```
proc format;  
  value $genderformat "1"="Female"  
                    "2"="Male";
```

NOTE: Format \$GENDERFORMAT has been output.

Enhancements to the FORMAT Procedure

- Informat names for character and numeric informats can have a maximum length of **31**, which includes the **\$** for character names.
- Partial SAS Log

```
proc format;  
  invalue $genderinformat "1"="Female"  
                           "2"="Male";
```

NOTE: Informat \$GENDERINFORMAT has been output.

New Statistics for the TABULATE Procedure

- To be closely aligned with the MEANS procedure, the TABULATE procedure now supports the following statistics:
 - upper confidence limits (UCLM)
 - lower confidence limits (LCLM)
 - skewness (SKEWNESS | SKEW)
 - kurtosis (KURTOSIS | KURT).

Enhancements to the SORT Procedure

- The DUPOUT= option specifies the output dataset to which duplicate observations are written.

```
PROC SORT DATA= V9.SCHEDULE nodupkey  
    out = sortsched  
    dupout = dupobs;  
by course_code;  
run;
```

Migrating to SAS System 9: Overview of the MIGRATE Procedure

- The MIGRATE procedure
 - is the tool for transitioning SAS libraries from older releases to the current release
 - enables new functionality not found in the COPY, CATALOG, and CPORT/CIMPORT procedures
 - does **not** migrate individual files from the library.

Migrating a SAS Data Library

General form of a PROC MIGRATE step:

```
PROC MIGRATE IN=libref-1 OUT=libref-2 <options>;  
RUN;
```

IN= identifies the source library, or the library you want to migrate.

OUT= identifies the target library, or the library to which you want to migrate.

VALIDFMTNAME= System Option

- **VALIDFMTNAME=**
controls the length of informat and format names that you can use when you create new SAS data sets and format catalogs.

VALIDFMTNAME= LONG|FAIL|WARN

New SAS Functions

**CAT, CATS, CATT, CATX, PROPCASE,
COUNT, CHAR, FIRST**

Concatenating Strings

Have you concatenated strings using ||, TRIM, LEFT, and PUT to obtain the desired result?

Let's look at the following code:

```
data dat;  
  length a b c $10;  
  n=9;  
  a='makes';    b='it';    c='easier';  
  old=n||a||b||c;  
  put old=;  
run;
```

Concatenating Strings

Let's look at the log:

NOTE: Numeric values have been converted to
character values at the places given by:

(Line):(Column).

25:8

old=9makes it easier

Concatenating Strings

Let's change the code:

```
data dat;
```

```
length a b c $10;
```

```
n=9;
```

```
a='makes';    b='it';    c='easier';
```

```
old=n||' '||trim(a)||' '||trim(b)||' '||c;
```

```
put old=;
```

```
run;
```

Concatenating Strings

Let's look at the log:

NOTE: Numeric values have been converted to
character values at the places given by:

```
(Line):(Column).
```

```
53:8
```

```
old=9 makes it easier
```

Reduce Code Complexity

The Version 9 family of CAT functions reduces complexity when concatenating strings:

- CAT – concatenates multiple strings in one function call
- CATT – same as CAT but also TRIMs
- CATS – same as CAT but also strips leading and trailing blanks
- CATX – same as CATS but you can also specify a delimiter

Note: functions also automatically handle the conversion from num to char

Concatenating Strings

Let's change the code:

```
data dat;
```

```
length a b c $10;
```

```
n=9;
```

```
a='makes';    b='it';    c='easier';
```

```
new=CATX(' ',n,a,b,c);
```

```
put new=;
```

```
run;
```

Concatenating Strings

Let's look at the new log:

```
new=9 makes it easier
```

The PROPCASE Function

- The **PROPCASE** function returns a string in proper (mixed) case.

```
PROPCASE(string, <delimiter(s)>)
```

Example:

```
name = 'rupinder DHILLON';
```

```
newname = PROPCASE(name, ' ');
```

Result:

```
Newname = Rupinder Dhillon
```

Extracting Strings

Have you used Substr to extract a portion of a character value?

Let's look at the code:

```
data extract;
```

```
MarketingCode='FD12Q1320';
```

```
Region=substr(MarketingCode, 5, 1);
```

```
Product=substr(MarketingCode, 1, 1);
```

```
run;
```

Extracting Strings

Let's look at the SAS 9 code:

```
data extract;
```

```
    MarketingCode='FD12Q1320';
```

```
    Region=CHAR(MarketingCode, 5);
```

```
    Product=FIRST(MarketingCode);
```

```
run;
```


Multi-threading capabilities

- New multi-threading capabilities improve processing time for the SORT, SQL, MEANS, TABULATE and REPORT procedures

Need More Information?

- <http://support.sas.com/software/9/index.htm>
- Contact me at:
rupinder.dhillon@sas.com