

# Summary of SAS V9.4 Dictionary Tables and Views

## Notation:

- In headers, **dict** indicates SQL reference (dictionary.*tableName*); **sh** indicates SASHELP reference (sashelp.*viewName*); **PW** identifies tables with no data displayed if member is password-protected.
- indicates a field used for uniquely identifying an observation
- NN** identifies a field whose value may be missing for non-native SAS file types (including SAS Transport files).
- V** identifies a field whose value may be missing or 0 for SAS views
- [UC]** upper-cased, **[CP]** case preserved

## Usage Notes:

- MEMNAME:** If using native SAS engines, upper-cased. Others preserve case and spacing.
- Non-native files: if the data source has a name exceeding 32 characters, cannot be read due to security restrictions, or uses syntax not understood by SAS, it will *not* be presented in any Table or View.
- Not all tables and fields are shown!*

## **dict.dictionaries / sh.vDctnry** Dictionary Table Attributes

► memname	\$32	Dictionary table name [UC]
memlabel	\$256	Dictionary table label [CP]
► name	\$32	Column name [UC]
type	\$4	Column type [char num]
length	num	Column length
npos	num	Column position [offset within observation. >= 0]
varnum	num	Column number in table [1, 2, 3, ...]
format	\$49	Column format [may include width, period]
informat	\$49	Column informat [may include width, period]

## **dict.catalogs / sh.vCatalog** Catalog Member Attributes

► libname	\$8	Library name [UC]
► memname	\$32	Member name [UC]
memtype	\$8	Member type [CATALOG]
► objname	\$32	Object name [UC]
► objtype	\$8	Object type [FORMAT FORMATC MACRO...]
objdesc	\$256	Object description [CP]
created	num	Date created [DATETIME informat/format]
modified	num	Date modified [DATETIME informat/format]
alias	\$8	Object alias [UC]
level	num	Library concatenation level [0, 1, 2, ...]

## **dict.columns / sh.vColumn PW** Variable Attributes

► libname	\$8	Library name [UC]
► memname	\$32	Member name [UC]
► memtype	\$8	Member type [DATA VIEW]
► name	\$32	Column name [case as-is except for transport files (always upper-cased)] Can contain blanks. Non-native names: blanks→underscore, can be truncated.
type	\$4	Column type [char num]
length	num	Column length
npos	num	Column position [offset within obs., e.g., 0, 1, 20]
varnum	num	Column number in table [1, 2, 3, ...]
label	\$256	Column label. [CP]
format	\$16	Column format [DATE9. \$HEX22.]
informat	\$16	Column informat [MMDDYY10. 8.2]
idxusage <b>NN</b>	\$9	Column index type [SIMPLE COMPOSITE BOTH]
sortedby	num	Key sequence order [0, 1, ...] Negative if descending

## **dict.destinations / sh.vDest** Open ODS Destinations

► destination	\$100	Destination [PDF RTF PS]...
style	\$32	One-level style name [Journal Printer]...

## **dict.engines / sh.vEngine** Attributes of all available engines

► engine	\$8	Engine name [UC]
alias	\$8	Alias [UC]
description	\$40	Description [CP]
preferred	\$3	Preferred? [yes no]

## **dict.exfiles / sh.vExtrl** User, system external files

► fileref	\$8	FILEREF [UC] duplicated for concatenated files
► xpath	\$1024	Path. Can be either a directory or directory+file name+extension (e.g., dir\dm.xpt) [CP]
xengine	\$8	Engine name [upper case] [e.g., DISK, DUMMY]
directory	\$3	Does FILEREF point to a directory [yes no]
exists	\$3	Does the location exist? [yes no]
fileSize	num	Size of file, in bytes
► level	num	File concatenation level (0, 1, ...)
modDate	num	File modification date-time [DATETIME informat/format]
temporary	char	Allocated as a temporary location? [yes no]

## **dict.formats / sh.vFormat** Attributes of system/user formats

► libname	\$8	Library name [UC] [when SOURCE='C']
► memname	\$32	Member name [UC] [when SOURCE='C']
► path	\$1024	Path name [UC] [when SOURCE='U']
► objname	\$32	Object name [UC] [e.g. GROUP, TYPE] [when SOURCE='U', 'C']
► fmtname	\$32	Format name [UC] [e.g., GROUP, \$TYPE] [no decimal point]
► fmtype	\$1	Format type [F (format) I (informat)]
source	\$1	Format source [U (system) B (built-in) C (catalog, i.e., created by PROC FORMAT)]
minw	num	Minimum width [>= 0]
mind	num	Minimum decimal width [>= 0]
maxw	num	Maximum width [>= 0]
maxd	num	Maximum decimal width [>= 0]
defw	num	Default width [>= 0]

## **dict.functions / sh.vFunc** Available Functions

► fncname	\$32	Function name [UC]
fncargs	num	Argument attributes
fncprod	\$1	Implementation type
fnctype	\$1	Function type
maxarg	num	Maximum number of arguments to function
minarg	num	Minimum number of arguments to function
source	\$1	Format source

## **dict.indexes / sh.vIndex PW** Native Engine Index Attributes

► libname	\$8	Library name [UC]
► memname	\$32	Member name [UC]
memtype	\$8	Member type [DATA]
► name	\$32	Column name [CP]
idxusage	\$9	Column index type [COMPOSITE SIMPLE]
► idxname	\$32	Index name [CP]
► indxpos	num	Column position (offset within obs.) in composite key.
nomiss	\$3	NOMISS option [yes blank]
unique	\$3	UNIQUE option [yes blank]

## **dict.libnames / sh.vLibnam** Attributes of Allocated Libraries

► libname	\$8	Library name [UC]
engine	\$8	Engine name [UC]
► path	\$1024	Path name [blank for some engines: URL, ...] [CP] Non-native engines, may include file name, extension.
► level	num	Library concatenation level [0, 1, 2, ...]
readonly	\$3	Read only? [no yes]
sequential	\$3	Sequential? [no yes]
temp	\$3	Allocated with temporary access? [yes no]

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<i>dict.macros</i> / <i>sh.vMacro</i>		Macro Variable Values
▶ scope	\$9	Macro variable scope [GLOBAL AUTOMATIC macro name (if local)]
▶ name	\$32	Macro variable name [UC]
▶ offset	num	Offset into macro variable [0, 200, ...]. The beginning of a value spanning observations may not always be stored with OFFSET=0.
value	\$200	Macro variable value [case, spacing are preserved]

<i>dict.members</i>		Member Attributes
▶ libname	\$8	Library name [UC]
▶ memname	\$32	Member name [UC] (SAS) [CP] (other) Generation datasets: <i>name#nnnn</i>
memtype	\$8	Member type [DATA VIEW ITEMSTOR CATALOG ...]
dbms_memtype	\$32	DBMS member type [VIEW DATA LINK ...]
engine	\$8	Engine name [UC]
index	\$32	Indexes? [yes no] [ <i>not index names!</i> ]
path	\$1024	Path name [CP] [concatenated paths are quoted and enclosed in parentheses; otherwise, no parentheses or quotes] [For most non-native engines, directory + file name + extension; otherwise, just directory]

MEMBERS views	
<i>sh.vMember</i>	All fields from dictionary.members
<i>sh.vsAccess</i>	LIBNAME, MEMNAME (memtype='ACCESS')
<i>sh.vsCatlg</i>	LIBNAME, MEMNAME (memtype='CATALOG')
<i>sh.vsLib</i>	LIBNAME, PATH (unique values of LIBNAME)
<i>sh.vsTable</i>	LIBNAME, MEMNAME (memtype='DATA')
<i>sh.vsView</i>	LIBNAME, MEMNAME (memtype='VIEW')
<i>sh.vsTabvw</i>	LIBNAME, MEMNAME, MEMTYPE (memtype='DATA', 'VIEW')

<i>dict.views</i> / <i>sh.vView</i>		PW View Attributes (SAS file formats only)
▶ libname	\$8	Library name [UC]
▶ memname	\$32	Member name [UC]
memtype	\$8	Member type [VIEW]
engine	\$8	Engine name [SASESQL SASDSV ...]

<i>dict.styles</i> / <i>sh.vStyle</i>		Attributes of Currently Allocated Styles
▶ libname	\$8	Library name [UC]
▶ memname	\$32	Member name [UC]
▶ style	\$32	Style name [case preserved] V9: two-level style path V8: one-level style identifier
crdate	num	Date created [DATETIME informat/format]

<i>dict.options</i> / <i>sh.vOpt</i>		Option Settings
<i>dict.goptions</i> / <i>sh.vGopt</i>		
<i>sh.vAllopt</i>		
▶ optname	\$32	Full name ( <i>not alias</i> ) of the option [UC]
setting	\$1024	Option setting [CP]
optdesc	\$160	Option description
▶ level	\$8	Option location • GOPTIONS: [GRAPH] • OPTIONS: [Portable Host]
group	\$32	OPTIONS only: option group [UC] [MACRO SORT ENVFILES ...]
offset	\$200	Offset into SETTING value [0, 200, ...].
opttype	\$8	Option type [boolean char num]

<i>dict.titles</i> / <i>sh.vTitle</i>		Values of Titles and Footnotes
▶ type	\$1	Title location [TF]
▶ number	num	Title number [1, ... 10]
text	\$256	Text [UC] Rendering information (h=1 j=l etc.) is removed. Macro variables are resolved.

<i>dict.tables</i> / <i>sh.vTable</i>		Attributes of Tables and Views	
Typical setting for non-native (MDB, XLS, REMOTE, XPT) member ▼			
▶ libname #	\$8	Library name [UC]	
▶ memname #	\$32	Member name [UC]	
▶ memtype #	\$8	Member type [DATA VIEW]	
dbms_memtype	\$8	If non-native engine, member type [VIEW TABLE LINK ...]. Otherwise, blank	
memlabel V	\$256	Dataset label [CP]	missing
typemem	\$8	Dataset type [ <i>blank</i>  DATA MSGFILE ATTLIST VIEW ...]	DATA
crdate	num	Date created [DATETIME informat/format]	missing
modate	num	Date modified [DATETIME informat/format]	missing
nobs V	num	Number of observations	missing
delobs V	num	Number of deleted observations [>= 0]	0
nlobs V	num	Number of logical observations [. if view, else positive integer]	missing
obslen	num	Observation length	0
nvar	num	Number of variables	
maxvar	num	Length of longest variable name	
maxlabel V	num	Length of longest label [>=0]	0
num_character	num	Number of character variables	
num_numeric	num	Number of numeric variables	
protect # V	\$3	Password protection [position 1: - R position 2: - W position 3: - A]	---
compress V	\$8	Compression routine [NO CHAR BINARY]	NO
encrypt V	\$8	Encryption [NO YES]	NO
filesize V	num	File size [>= 0]	0
npage V	num	Number of pages [0, 1, ...]	0
pcompress V	num	Percent compression [0, 1, ...] [value stored is truncated integer -can be negative]	missing
reuse V	\$3	Reuse space [no yes]	no
bufsize V	num	Buffer size	0
indxtype V	\$9	Index types [ <i>blank</i>  SIMPLE COMPOSITE BOTH]	missing
sortname	\$8	Name of collating sequence	missing
sorttype	\$4	Sorting type [S=sort verified SR=sort w. NODUPREC SK=sort w. NODUPKEY]	missing
sortchar	\$8	Character sorted by [ANSI ASCII ...]	missing
encoding	\$256	Data encoding [blank if view]	Default

\* If password protected (TABLES.PROT position 1 = "R") this field will be populated

<i>dict.xattrs</i> / <i>sh.vXattr</i>		Extended Attributes ( <i>added in V9.4</i> )
▶ libname	\$8	Library name [UC]
▶ memname	\$32	Member name [UC]
▶ name	\$32	Variable name [UC] Blank if dataset-level.
▶ xattr	\$32	Attribute name [CP]
xtype	\$4	char num
▶ xoffset	num	Offset into XVALUE value [0, 200, ...] (Note: no interaction with PROC DATASETS SEGLENN option)
xvalue	\$200	Attribute value [CP]

Other tables		
check_constraints	constraint_column_usage	constraint_table_usage
dataitems	dictionaries	filters
infomaps	locales ( <i>added in V9.4</i> )	prompts
promptsxml	referential_constraints	remember
table_constraints	view_sources	