

ODS Markup: Tagsets by Example

Eric Gebhart
SAS Institute

September 22, 2003

0.4pt1pt

Contents

I	Introduction	3
1	Introduction	5
1.1	Why Learn Tagsets?	5
1.2	What are Tagsets?	5
1.3	A short History of Tagsets	6
1.4	Markup Languages	6
1.4.1	In the Beginning There Was Roff	6
1.4.2	Then there was LaTeX	6
1.4.3	SGML and friends	6
1.4.4	Other Formats	7
1.4.5	What it all means	7
2	The basics	9
2.1	Tagsets and Proc Template	9
2.1.1	The tagset directory	9
2.2	Using a tagset	11
2.3	Summary	13
3	Tagsets: how do they work?	15
3.1	Data and context in time	15
3.2	Event Requests	15
3.2.1	A few variables	15
3.3	Our First tagset	16
3.3.1	Define statement	16
3.3.2	The data event	16
3.3.3	The header event	17
3.4	Fleshing out the plain_text tagset	18
3.4.1	head, body, and foot	20
3.4.2	Titles	21
3.5	Summary	23
4	Modifying Existing Tagsets	25
4.1	Changing the delimiter for CSV files	25
4.1.1	Finding the Events	25
4.1.2	Simple If's	26

4.2	Making the changes	27
4.3	A better CSV tagset	28
4.3.1	Macro variables	28
4.3.2	The Initialize Event	28
4.3.3	The set statement	29
4.3.4	The New CSV Tagset	29
4.3.5	Tagset Alias	30
4.4	Summary	31
5	The Path to Enlightenment	33
5.1	Finding Events	33
5.1.1	The Short_map Tagset	33
5.2	The Default_Event Tagset Attribute	38
5.2.1	The Events	38
5.2.2	The Default Event	39
5.2.3	summary	40
5.3	Finding Variables	41
5.4	The Putlog Statement	44
5.5	Define, Identify, Locate, Explore, and Solve.	44
5.5.1	Repeat as Necessary	45
5.6	Going step by step	45
5.6.1	Adding a Target to a URL	45
5.6.2	Define the Problem	45
5.6.3	Identify the event	46
5.6.4	Locate the Event	46
5.6.5	Explore the Data	47
5.6.6	Repeat. Identify, Locate, Explore	47
5.6.7	The solution	47
5.7	Summary	50
6	File Redirection	51
6.1	The File Attribute	51
6.2	Identify	52
6.3	Locate and Explore	56
6.4	File interactions	58
6.5	Freedom of Choice	58
6.5.1	Explore	59
6.6	Summary	61
II	Technicalities	63
7	The Tagset Attributes	65
7.1	Parent	65
7.2	Special Characters	65
7.2.1	Automatic Character Translation	65
7.3	Non Breaking Spaces	66

7.4	Split Characters	66
7.5	Indentation	66
7.6	Stacked Columns	66
7.7	Image Formats	67
7.8	Output Type	67
7.9	Adding Measurements	67
7.10	Copyright Symbol	67
7.11	Trademark Symbol	67
7.12	Registered Trademark Symbol	67
7.13	Default Event	68
7.14	Embedded Stylesheet	68
7.15	Pure Style	68
7.16	lognote	68
7.17	Splitting Text	68
7.17.1	Breaktext Length	69
7.17.2	Breaktext Width	69
7.17.3	Breaktext Ratio	69
7.18	External Graph Instance	69
7.19	No Byte Order Mark	69
7.20	Hierarchical Data	70
7.21	Summary	70
8	Creating Variables	71
8.1	String Variables	71
8.2	Lists	72
8.3	Dictionaries	72
8.4	Numeric Variables	73
8.5	Stream Variables	73
8.5.1	Stream Specific Statements	74
8.6	The Putvars Statment	74
8.7	Bringing it all together	74
8.8	Summary	78
9	Procedural controls	79
9.1	Simple If's	79
9.1.1	Built in tests	79
9.2	Where Clauses	80
9.3	Break	80
9.4	Breakif	81
9.5	Do blocks	81
9.6	Do While Loops	82
9.7	Iterating through Dictionaries	83
9.8	Bringing it all together	84
9.9	Summary	87

10 Trigger Happy	89
10.1 Simple Triggers	89
10.2 Events with a state	89
10.3 summary	92
11 Data Step Functions	93
11.1 Set and Put statements	93
11.2 The Eval Statement	93
11.2.1 number conversions	94
11.3 advanced usage and debugging	95
11.3.1 File I/O	96
11.3.2 Perl Regular Expressions	98
11.4 Summary	100
 III Intermediate Examples	 101
12 Styles and Tagsets, A perfect match	103
12.1 Starting Simple	103
12.1.1 Embedded styles	106
12.2 Styles of your own choosing	107
12.3 Getting the whole style	109
12.4 Summary	111
13 Tagsets with Style	113
13.1 A Problem with Table Rules	113
13.1.1 Define the problem	113
13.1.2 A Simple Solution	115
13.1.3 Identify and locate the event	115
13.1.4 A Simple Solution	116
13.1.5 Table Rules with style	117
13.1.6 The Better Solution	117
13.2 Everyone likes stripes	118
13.2.1 Defining the Problem	118
13.2.2 The HTML solution	119
13.2.3 The Code	119
13.2.4 The LaTeX solution	120
13.2.5 The Code	122
13.2.6 Summary	123
13.3 sidebar columns	124
13.3.1 Define the Problem	124
13.3.2 Identify and Locate	124
13.3.3 The Solution	124
13.3.4 Example Summary	126
13.4 Summary	127

14 Tagsets with Streams	129
14.1 Overly long Tables	129
14.1.1 Defining the Solution	129
14.1.2 Identify, Locate and Explore	129
14.1.3 The Solution	129
14.2 A Tagset with Startpage	130
14.2.1 Identify, Locate and Explore	130
14.2.2 Defining the solution	132
14.2.3 Block and Unblock statements	132
14.2.4 A partial solution	132
14.2.5 The Solution	134
14.2.6 More Identify and Locate	139
14.2.7 Refining the Control	139
14.2.8 Almost There	141
14.2.9 The Final Solution	142
14.3 Summary	144
 IV Advanced Examples	 147
15 ODS Output for Website Integration	149
15.1 The Problem	149
15.2 Alternate Behavior for existing options	150
15.2.1 Explore	150
15.3 Reading an external file	150
15.4 The Solution	154
15.4.1 Initialization Timing	154
15.5 Summary	158
 16 Daststep Conversions	 161
16.1 Special Bylines	161
16.1.1 The DataStep Code	161
16.1.2 Breaking it down	163
16.1.3 The Style	165
16.1.4 Counting Observations	165
16.1.5 various problems	168
16.1.6 Modifying the Byline	170
16.1.7 A more flexible solution	173
16.2 Slidebars for HTML, PDF, and PS	177
16.2.1 breaking it down	177
16.2.2 The Style	177
16.2.3 The HTML Tagset	180
16.2.4 Dealing with the Report Procedure	180
16.2.5 The \LaTeX Tagset	184
16.3 Summary	190

17 Extended examples	191
17.1 Repeating Headers, and Mirrored Row headers	191
17.1.1 The Single Stream Solution	191
17.1.2 The Multiple Stream Solution	191
17.1.3 The Multiple List Solution	191
17.2 Automatic Panelling	192
17.2.1 An Extension of Start Page	192
17.2.2 The solution	192
17.3 HTML forms	192
17.3.1 Option Lists	192
17.3.2 Saving the Lists	192
17.3.3 Creating the Form	192
17.4 Summary	192
18 A feature Rich Tagset	193
18.1 Which features?	193
18.2 Lining up the inheritance	193
18.3 Copy and Paste	193
18.4 Macro Variables and Tagset Alias	193
18.5 Summary	193
V Usage Notes and Caveat's	195
19 Special Cases, Procedures and Operating Systems'	197
19.1 A Report Procedure problem	197
19.1.1 deferred data	197
19.2 The Tabulate and Report problem	197
19.2.1 The Table Head section	197
19.2.2 The Table column specifications	197
19.3 HTML on MVS with a PDSE	198
19.4 Summary	198
20 Using LaTeX	199
20.1 The LaTeX statement	199
20.1.1 Color Support	199
20.2 Compiling the LaTeX Output	200
20.2.1 The latex Command	200
20.2.2 The dvips Command	200
20.2.3 The pdflatex Command	201
20.3 Integrating LaTeX output into documents	201
20.3.1 The easy way	201
20.3.2 Using NewFile to advantage	201
20.3.3 The simple way	202
20.4 Image Formats and Graph	202
20.5 LaTeX in the different versions of SAS	203
20.5.1 SAS 8.2	203

20.5.2	SAS 9.0	203
20.5.3	SAS 9.1 and beyond.	203
20.6	Summary	204
21	Using The HTML Tagsets	205
21.1	The html statement	205
21.1.1	HTML4	205
21.1.2	PHTML	205
21.1.3	HTMLCSS	205
21.1.4	MSOffice2K	205
21.2	CHTML	205
21.3	Stylesheets	206
21.4	Javascript code	206
21.5	Scrolling Tables	206
21.6	Accessibility	206
21.7	HTML and Excel	206
21.8	Summary	206
22	Using Markup output with Spreadsheets.	207
22.1	Using CSV	207
22.2	SYLK	207
22.3	HTML and Excel	207
22.3.1	Compact HTML	208
22.3.2	PHTML - Plain HTML	208
22.3.3	HTML for Microsoft Office 2000	208
22.4	DDE	208
22.5	Spreadsheet XML	208
22.6	Summary	208
23	Using Tagsets with the Libname XML Engine	209
23.1	XML Engine vs. ODS	209
23.2	Advantages of the XML engine	213
23.2.1	Control options	213
23.3	The Tagsets	213
23.4	Summary	213
VI	Appendices	215
	Quick Reference Guide	217
.1	Useful tagsets	217
.2	Tagset attributes	217
.3	Event attributes	217
.4	Event Statements	217
.5	If Statements	217

Variables	219
.6 Event Variables	219
.6.1 508 Accessibility	219
.6.2 Data	219
.6.3 Event MetaData	219
.6.4 Data Formatting	219
.6.5 Title and Note Formatting	219
.6.6 Miscellaneous	219
.6.7 Graph	219
.6.8 ODS Statement	219
.6.9 Table	219
.6.10 URL	219
.6.11 XML Libname Engine	219
.7 Style Variables	219
.7.1 Borders	219
.7.2 Font	219
.7.3 Images	219
.7.4 Layout	219
.7.5 Miscellaneous	219
.7.6 Text	219
Extended Examples	221