

Creating Zillions of Labels (and Other Documents) the Easy Way with ODS and Microsoft Word

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ABSTRACT

This paper provides a quick and easy way to generate address labels or other data-driven documents from your SAS® data. The first step is to use the SAS Output Delivery System (ODS) to convert your data into a format that Microsoft Word can import. Then you use Word's Mail Merge Wizard to guide you through the steps to create your document. The technique is easy, requires only Base SAS version 8 or later, and will work on any platform where SAS is installed (even if SAS is installed on a mainframe). This technique can also be used with SAS version 6 by using the SAS HTML Formatting Tools instead of ODS.

INTRODUCTION

Although the mail merge feature of Microsoft Word is most often used to create form letters, it can also be used to make labels, reports, and other data-driven documents. Merging a data source with your Word document is a straightforward process. Possible data sources include Paradox, dBASE, and Microsoft Access files. This paper explains how to create labels using a SAS table as the data source. You can then use the same concepts to create any type of data-driven document.

The general steps are as follows:

1. Aggregate your SAS data.
2. Convert your SAS data to HTML using ODS.
3. Use the Mail Merge Wizard to create the labels, connect to the SAS data, and then print or save the resulting document.

SAS 9 and Microsoft Word XP (also called Word 2002) were used in the preparation of this paper. Earlier releases of SAS and Microsoft Word can also be used.

STEP 1: AGGREGATE YOUR SAS DATA

When creating labels, it is important that your data contains one record per addressee. If your data contains more than one record per addressee, you must first aggregate your data. Table 1 shows a partial view of a sample SAS table (data set) named "ArizonaBusiness". Actual column (variable) names are shown in the first row of the table.

companyName	streetAddress	cityName	stateAbbr	ZIPCode
Brewers Den	322 E Camelback Rd	Phoenix	AZ	85012
Arizona Valley Desert Distribu...	12329 NW Grand...	El Mirage	AZ	85335
Ponti Inc	2121 S 48th Street...	Tempe	AZ	85282
High Altitude Performance	258 E 10th Dr #101	Mesa	AZ	85210
National Premier Sales & Dist...	5445 W. Missouri Ave	Glendale	AZ	85301
Prime Distributors	4363 E Illinois St #7	Tucson	AZ	85714
Las Reynas Distributors	1665 E 18th St #204	Tucson	AZ	85719

Table 1. Partial View of the Sample SAS Table "ArizonaBusiness"

STEP 2: CONVERT YOUR SAS DATA TO HTML USING ODS

Next you must convert your SAS table to a format that Word can import. Probably the most convenient format is HTML, which is easily created using ODS and the PRINT procedure:

```
title; footnote;
ods listing close;
ods html path='your-output-directory' body='ArizonaBusiness.htm' style=minimal;
proc print data=ArizonaBusiness label noobs;
  label companyName = 'Company'
        streetAddress = 'Address1'
        cityName = 'City'
        stateAbbr = 'State'
        ZIPCode = 'PostalCode'; * Use labels that Word likes;
run; quit;
ods html close;
```

In the code above, *your-output-directory* specifies the directory where the HTML file will be stored. Note that the column labels used in the LABEL statement are special, built-in names that Word recognizes. Using these recognized column names will streamline the mail merge process by automatically mapping the column names in the data to field names in the Word document. Refer to the Appendix for a list of other recognized column names you can use when making address labels. If you do not use column labels that Word recognizes, you will have to perform a custom mapping in step 4 of the Mail Merge Wizard.

If Word is not installed on the same machine as SAS, create the HTML file and move it to a location where Word can access it, such as a Web server or network-accessible drive. The DS2HTM macro, part of the HTML Formatting Tools, can be used with SAS Version 6 to create HTML files.

Occasionally, Word fails to import an HTML file as a data source. This can happen when there is a large amount of data in the file. If you encounter this problem, try creating a CSV file instead of an HTML file, using ODS or the DS2CSV macro.

STEP 3: USE THE MAIL MERGE WIZARD TO CREATE THE LABELS

Start Microsoft Word and create a new blank document. In Word XP, access the Mail Merge Wizard by selecting

Tools ► Letters and Mailings ► Mail Merge Wizard...

(A similar menu selection is available in earlier versions of Word.)

In step 1 of the wizard (Figure 1), select the "Labels" document type and then click the Next arrow at the bottom of the dialog box.

In step 2 of the wizard you choose options that define the type and size of the labels. Select "Change Document Layout", and then click on "Label Options". For the product, select "Avery Standard". For the product number, select "5961 – Address".

If you decide to use a label that does not have a built-in template, consult the Microsoft Office Template Library to see if a template is available for download. Because the label templates are formatted as a standard Word table, you can easily use the table editing features of Word to customize the layout.

Step 3 of the wizard asks you to provide a file that contains the names and addresses of the recipients. Click "Browse" and select the "ArizonaBusiness.htm" file, created earlier.



Figure1. Step 1 of the Mail Merge Wizard

In step 4 of the wizard you arrange your labels. You can add to your label information such as a standard address block, custom address fields, electronic postage, or a postal barcode. Since we used recognized column labels in our HTML file, we can use the standard address block. Add the standard address block to your label by clicking "Address block...". Then click OK in the resulting Insert Address Block dialog box to accept the default choices. After adding the standard address block to the first label, you will see the following text in your Word document:

««AddressBlock»»

This text indicates that a Word mail merge field has been inserted. Word mail merge fields map to columns in your data source. Because we used recognized column labels, the address block field automatically maps to the "Company", "Address1", "City", "State" and "PostalCode" columns in our HTML file. If you did not use recognized column labels when the HTML file was created, you can map the columns in your data to the individual address elements of the address block by clicking the "Match Fields..." button in the Insert Address Block dialog box.

To include the address block field on all labels, click the "Update all labels" button in the Mail Merge Wizard. Figure 2 presents a partial view of how your Word document looks after all labels are updated.

««AddressBlock»»	«Next Record»««AddressBlock»»
«Next Record»««AddressBlock»»	«Next Record»««AddressBlock»»

Figure 2. Partial view of the Microsoft Word Document Containing Mail Merge Fields

Clicking the Next arrow in the wizard takes you to step 5, which previews your labels. The wizard merges the data from your HTML file into the Word document to create a preview of the labels, as shown in Figure 3.

Brewers Den 322 E Camelback Rd Phoenix, AZ 85012	Arizona Valley Desert Distributing 12329 NW Grand Ave Ste N El Mirage, AZ 85335
Ponti Inc 2121 S 48th Street #106 Tempe, AZ 85282	High Altitude Performance 258 E 10th Dr #101 Mesa, AZ 85210

Figure 3. Partial View of the Microsoft Word Document with Merged Data

The final step of the Mail Merge Wizard is to "Complete the merge". In this step you can choose to send your labels directly to a printer, or save a static copy of the labels in a new Word document. The static copy does not contain any Word fields, but rather contains the final, merged output. Therefore, opening this static document at a later date will not reflect any changes in your data source. Conversely, saving the original document (with the Word fields),

and subsequently reopening it, will cause Word to connect to your data source and dynamically rebuild the labels, picking up any changes in your data.

USING THE MAIL MERGE WIZARD TO CREATE OTHER TYPES OF DOCUMENTS

By selecting "Directory" as the document type in the first step of the Mail Merge wizard (Figure 1), you can generate any type of data-driven document. Simply create the document as you want it to appear, minus the data. Then use the Mail Merge Wizard or the Mail Merge toolbar to connect to a data source and insert Word fields. You can access the Mail Merge toolbar by selecting

View ► Toolbars ► Mail Merge

This toolbar provides all the functionality of the Mail Merge Wizard.

CONCLUSION

Microsoft Word's Mail Merge Wizard provides robust capabilities for creating labels, form letters, reports and other types of data-driven documents. Once a Word document is laid out, it is a relatively simple matter to connect the document to SAS data, regardless of the platform where SAS software is installed. ODS and the HTML Formatting Tools are convenient tools to convert your SAS tables to a format suitable for use with the Mail Merge Wizard.

APPENDIX

COLUMN NAMES RECOGNIZED FOR ADDRESSES BY MICROSOFT WORD

When creating address labels you should use Word's recognized names as column labels in your data file to avoid having to manually map columns to fields. The following column names are recognized by Word, and will map to the field name of the same name:

CourtesyTitle	FirstName	MiddleName	LastName	Suffix
JobTitle	Company	Department	Address1	Address2
Address3	City	State	PostalCode	CountryOrRegion

REFERENCES

Microsoft Corporation. Microsoft Template Gallery, "Templates".
Available at <http://office.microsoft.com/en-us/templates/default.aspx>

SAS Institute Inc. User documentation, "Application Utilities: DS2CSV".
Available at <http://support.sas.com/rnd/web/intrnet/ds2csv/ds2csv.html>

SAS Institute Inc. User documentation, "HTML Formatting Tools".
Available at <http://support.sas.com/rnd/web/intrnet/format>

FURTHER READING

Microsoft Corporation. Help and Support web site, "Frequently asked questions about mail merge in Word 2002".
Available at <http://support.microsoft.com/default.aspx?scid=kb;en-us;290408>

Microsoft Corporation. Help and Support web site, "How to use the mail merge to create mailing labels in Word 2002". Available at <http://support.microsoft.com/default.aspx?scid=kb;en-us;294684>

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