Using Dynamic Data Exchange (DDE) to Pass Data to Microsoft® Word documents from within the SAS® System

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Abstract

Dynamic Data Exchange (DDE) is a method of communicating with PC based applications from within the SAS System. DDE allows the reading and writing of data from or to the application. Indeed, the applications can even be controlled from within the SAS system.

While most day to day tasks can be achieved within the SAS system, it is sometimes necessary to produce reports, letters etc using other applications such as Microsoft® Excel or Microsoft® Word.

This paper discusses how the use of DDE can achieve the writing of data to Microsoft Word.

Scope

This paper covers topics discussed during the 10 minute Coders’ Comer presentation. The basics of writing data to Word using DDE are outlined, however it is not intended to thoroughly discuss the topic. This topic will be covered in depth in Observations® Vol. 5, Num 3, Second Quarter 1996

Introduction

Many sites use PC based applications such as Microsoft Word and Microsoft Excel as their standard word processing and spreadsheet applications. These tools are often used to produce standard letters and reports. Output from SAS processing is sometimes required as part of a Word Document. This can be achieved in a number of ways, DDE being one way.

What is Dynamic Data Exchange?

Dynamic Data Exchange (DDE) is a method of dynamically exchanging information between applications. DDE is a feature of the SAS system for:
- Windows™
- Windows NT™
- OS/2®
- Windows 95™

DDE uses a Client / Server Relationship to enable the client to request information from a server. It is available in Version 6.08 (6.06 for OS/2) and later versions. , SAS is always the client in Version 6.08, 6.10 and 6.11 of the SAS System. This means that SAS can read data from or write to other applications and that commands can be sent to the other application, but that the process is initiated by SAS. Currently SAS cannot act as a DDE Server, that is, another application cannot initiate the passing of data to or from the SAS system.

Setting up a DDE Link.

To use DDE you must have both SAS and Word running. It is very easy to set up a DDE link. A special filename statement is used. The basic syntax is:

Filename =ref DDE 'DDE-triplet';

Where =ref is the alias that is given to the link. This must be a valid SAS name.
DDE is a special device-type key word.
DDE-triplet is the identifier for the link.

The DDE triplet.

The DDE triplet is generally made up of three parts being:

application-name/topic/item

- application name is the name of the server application.
- topic is the topic of conversation.
- item is the range of conversation specified between the client and server applications.

The | and ! are special characters that separate the different parts of the triplet.

The values of the DDE triplet are determined by the server application.

For Microsoft Word:

An example of a triplet is:

"Winword: c:/report/sales.doc!address

- Application name: winword
- Topic: The document name eg: c:/report/sales.doc
- Item: The bookmark where the data is to be inserted.

Writing data using DDE

In this example, data will be written from a SAS dataset to a specific bookmark in a Word document. The document is first loaded and a bookmark is defined at the point where the SAS data is to be inserted. Refer to Word documentation regarding how to define a bookmark. The example document is shown below. The bookmark (called pupils) is defined in the document at the line indicated by the →.

Mt Eden Primary School


As requested in February, I have collected the names of the pupils in Room 11 who have low marks. They are listed below.

Should you have any further requests, please do not hesitate to contact me.

Regards

Harriet Henry
Teacher

The SAS program is shown on the next page.
Coders' Corner

The program is run and the data is transferred to the Word document. The results are shown below.

The DDE link must first be established. In this example, the file is Word. Next is the DDE keyword and then the DDE triplet.

For the purposes of the example, data from the dataset SASUSER.CLASS will be used. This contains some data about pupils.

The statement to write the data to a file is in the same format as any file write. The file name is word1 as defined in the filename statement. By default SAS sends a tab delimiter between each word sent to the DDE link. In some cases a variable may have more than one word as the character value, for example if a person has two christian names 'Mary Jane' or 'Jean Paul.' By default, SAS will put a tab character between the words. As this will result in a tab between each word in the document, the NOTAB option is specified to overcome this. This instructs SAS not to put tab delimiters by default.

The data is then transferred to the Word document. The fields name, age and sex are put to the file (DDE link). If the data sent to the Word document is to later be formatted into a table, a delimiter should be sent between each variable. In this example tab delimiters are used. As SAS is not putting tab delimiters (because of the NOTAB option), the tab delimiter character must be put between each field that is sent to the word document. This means that a tab delimiter is sent between each variable rather than each word that is sent to Word. '09x is the ASCII Hexadecimal value for the tab delimiter. Other delimiter characters could also be used.

The program is run and the data is transferred to the Word document. The results are shown below.

### Mt Eden Primary School

**Monthly Report for the Principal March 1996.**

As requested in February, I have collected the names of the pupils in Room 11 who have low marks. They are listed below.

<table>
<thead>
<tr>
<th>Name</th>
<th>Age</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alice</td>
<td>13</td>
<td>F</td>
</tr>
<tr>
<td>Becky</td>
<td>13</td>
<td>F</td>
</tr>
<tr>
<td>Gail</td>
<td>14</td>
<td>F</td>
</tr>
<tr>
<td>Karen</td>
<td>12</td>
<td>F</td>
</tr>
<tr>
<td>Kathy</td>
<td>12</td>
<td>F</td>
</tr>
<tr>
<td>Mary</td>
<td>15</td>
<td>F</td>
</tr>
<tr>
<td>Sandy</td>
<td>11</td>
<td>F</td>
</tr>
<tr>
<td>Sharon</td>
<td>15</td>
<td>F</td>
</tr>
<tr>
<td>Tammy</td>
<td>14</td>
<td>F</td>
</tr>
<tr>
<td>Alfred</td>
<td>14</td>
<td>M</td>
</tr>
<tr>
<td>Duke</td>
<td>14</td>
<td>M</td>
</tr>
<tr>
<td>Guido</td>
<td>15</td>
<td>M</td>
</tr>
<tr>
<td>James</td>
<td>12</td>
<td>M</td>
</tr>
<tr>
<td>Jeffrey</td>
<td>13</td>
<td>M</td>
</tr>
<tr>
<td>John</td>
<td>12</td>
<td>M</td>
</tr>
<tr>
<td>Philip</td>
<td>16</td>
<td>M</td>
</tr>
<tr>
<td>Robert</td>
<td>12</td>
<td>M</td>
</tr>
</tbody>
</table>

Should you have any further requests, please do not hesitate to contact me.

Regards

[Signature]

Harriet Henry

Teacher

Once the data has been transferred, any formatting can be carried out in the Word document. For example, the transferred data can be placed into a table, and borders and shading applied.

### Conclusion

Passing data to Word from within the SAS system is a straightforward task. This article briefly discussed a simple example. DDE can also be used to control Word from within the SAS System, providing the ability to automate applications. Operations such as opening, saving, formatting and printing Word documents can be controlled from within the SAS System. I have successfully used DDE with Word to generate form letters, monthly accounts and reports, as well as for transferring data from within the SAS system to clients. Other data dictionaries, etc. can be controlled from within the SAS System and all without the need for the user to do any work at all in Word. This topic will be covered in depth in the forthcoming article in Observations.

### References


### Contact Details

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