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Paper 092-2008 Coders Corner

Check out These Pipes
Using Microsoft Windows Commands from SAS®

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Overview



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- Why Pipes?
- What are Pipes?
- Using Pipes
- DOS Commands to use with pipes in Windows
 - Examples
 - TREE: Reading Windows Tree Structure
 - SET: Reading Windows Environment Variables
 - DIR: Working with file and directory information
 - MKDIR: Creating Windows directories

Why Pipes?



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- It is another source of information for your program.
- Possibility for information driven programming to avoid hard coding.
- Could be considered cool!

What are Pipes?



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- A pipe is a channel of communication between two processes. In the SAS language there are two main types of pipes.
 - Named Pipes
 - Unnamed Pipes

What are Pipes? (continued)



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- Named Pipes
 - Named pipes handle one and/or two way communication between SAS and another application.

- Unnamed Pipes
 - Enables one to invoke a program that is external to SAS and redirect the programs input, output and error messages back to the SAS program without creating an intermediate data file.

What are Pipes? (continued)



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- This paper focuses on simple examples with unnamed pipes on a Windows platform.
- Be careful if you are on a server!

Using Pipes



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- The syntax for using unnamed pipes is:
 - FILENAME *fileref* PIPE 'program-name' option-list;
 - Filename mydir pipe 'ping localhost';
 - Infile mydir trunccover; *from a data step;

Pinging KALLBVarney2.msvcs.int [127.0.0.1] with 32 bytes of data:

Reply from 127.0.0.1: bytes=32 time<1ms TTL=128

Reply from 127.0.0.1: bytes=32 time<1ms TTL=128

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Reply from 127.0.0.1: bytes=32 time<1ms TTL=128

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Minimum = 0ms, Maximum = 0ms, Average = 0ms

DOS Commands



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- Issue a help command from a DOS prompt to get a list.

```
filename helpp pipe 'help';  
data help;  
  infile helpp truncover;  
  input line $char200.;  
  command=scan(line,1,' ');  
  lencomm=length(command);  
  description=left(substr(line,lencomm+1));  
run;
```

DOS Commands (continued)



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- For this paper we will look at examples of
 - TREE
 - SET
 - DIR
 - MKDIR or RMDIR

Examples

TREE



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■ TREE

- Graphically displays the folder structure of a drive or path.
- TREE [drive:][path][/F][/A]

```
filename pipetree pipe 'tree "c:\" /F /A' lrecl=5000;
```

```
data a;
```

```
  infile pipetree trunccover;
```

```
  input dirlist $char1000.;
```

```
run;
```

Examples (continued)

SET



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■ SET

- Displays, sets or removes cmd.exe environment variable settings.
- SET [variable]=[string]

```
filename pipeset pipe "set";
```

```
data pipeset;  
  infile pipeset;  
  input line $char200.;  
run;
```

Examples (continued)

DIR



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■ DIR

– Displays a list of files and subdirectories in a directory.

- DIR [drive:][path][filename] [/A[:]attributes] [/B] [/C] [/D] [/L] [/N] [/O[:]sortorder] [/P] [/Q] [/S] [/T[:]timefield] [/W] [/X] [/4]

```
filename pipedir pipe ' dir "c:\" /S' lrecl=5000;
```

```
data b;
```

```
  infile pipedir trunccover;
```

```
  input line $char1000.;
```

```
run;
```

Examples (continued)

MKDIR



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- MD or MKDIR
 - Makes a directory
- RD or RMDIR
 - Removes a directory

```
filename pipmkdir pipe "mkdir c:\newdir";  
data b;  
  infile pipmkdir;  
run;
```

Conclusions



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- Pipes can make your life easier if the operating system has some information that you need.
- Be aware of consequences from running certain commands.
- Enjoy!

Pipes Thanks!



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- Thanks for your time and attention!

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