

JACKIE'S Forum

OS/400's QSHELL



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Although the term “shell” is more well-known by UNIX and Linux programmers it is an environment that most of us are familiar with. A shell is, quite simply, a command interpreter. In the UNIX or Linux worlds there are multiple shell environments, two of the most common are the KORN shell and the Bourne Again SHell (bash). In the PC world we are all familiar with COMMAND.COM. In the iSeries world, although we rarely use the same terminology, we are very experienced with using command entry or QCMD which is our shell.

Many years ago IBM announced support for POSIX standards in OS/400. One of the capabilities that this gave us, was support for a UNIX or Linux type shell called “Qshell”. If you STRQSH (Start Qshell) you are in an environment very similar to command entry. Qshell allows us to execute powerful commands and utilities, most of which work with files in the IFS.

The shell commands can either be run interactively or through a shell script. A shell script is simply a text file that contains shell commands, much like a CL program or jobstream contains CL commands.

Qshell is a program that reads some input, interprets the command and then produces output. By default the standard input and output devices are the keyboard and the display. Qshell allows for capabilities known as redirection and piping. These may be familiar to many of you from past DOS days even if you aren't familiar with UNIX. Redirection allows you to change where the input comes from and where the output goes to.

A common use of redirection is to redirect your input device from the keyboard to a disk file. Basically you are telling the shell command to read a disk file and process it. Piping allows you to use the output from one command as input to a second command. In this way you can string a set of commands together each one potentially filtering or modifying the data to get the results you are looking for.

Qshell gives you access to many different UNIX or Linux commands to work with the IFS. You can also use Qshell to develop Java applications. The Java Development toolkit includes many UNIX style utilities for use in Java application development. IBM uses Qshell in applications such as WebSphere to gain cross platform compatibility.




Qshell gives you the capability of creating an archive file similar to a save file or a zip file on a pc. When developing Java applications, you often want to create a JAR file or a Java Archive file. The “jar” command will either create the archive file or extract files from the archive file depending

on the options specified. This is similar to performing a SAVOBJ to a save file and then running RSTOBJ. In a UNIX or Linux environment creating a TAR (Tape Archive) file is very common. In Qshell the “tar” command again allows you to either create the TAR archive file or to extract files from it based on command line options.

One of the more popular shell commands is “grep”. Don't you just love UNIX style command names? “grep” allows you to search for a pattern or a string of characters within a file.

In addition to the standard UNIX commands OS/400 supports commands to access “native” functionality. The shell command “liblist” shows you your current library list. The shell utility “db2” can be followed by a db2 statement in quotes that references DB2/400 tables.

Earlier today I was looking on the internet for some information and happened upon a sample CL program used to find the size of an object in the IFS. Another alternative to this CL program would have been to use the Qshell command. The command “strqsh ls -l | cut -c 39-50” would first list the files in your directory and then pipe or send this list to the cut command which would extract the characters containing the object length. The output would be a list of all objects sizes in the directory.

Although Qshell is part of OS/400 and has been for a very long while, it is an optional component and not installed by default. “GO LICPGM” (Go Licensed Program) and check if OS/400 option 30, the Qshell interpreter, has been installed. 

For more information on Qshell visit the iSeries Info Centre at <http://publib.boulder.ibm.com/html/as400/infocenter.html>.

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