

SPSS for UNIX: Batch Processing

Platform: UNIX

Level of Difficulty: Beginner

Overview

SPSS on the RCI system may be run in either of two modes: batch or interactive. In *batch* (i.e., noninteractive) mode, users prepare a file containing SPSS statements to be submitted for processing. When processing is complete, SPSS creates a file containing output which may be printed and/or viewed at a terminal. Batch mode processing is useful for large, time consuming, SPSS jobs, and for relatively routine SPSS jobs which have been tested and shown to be error free. This document describes the use of SPSS in batch mode.

Conventions

Within this document, UNIX commands that you will enter at your terminal are in **Bold Courier** font. Information intended to be typed into files or windows appears in **boldface**. Filenames and (sub)directory names are in *italics*.

Sample Run

Step 1:

Use the Emacs text editor to create a file called *try1.sps* containing the SPSS statements and raw data below (enter **emacs try1.sps** at your terminal).

```
data list free / id var1 var2  
begin data  
01 2 3  
02 4 4  
03 4 2  
04 2 1  
05 2 3  
06 3 9  
end data  
list vars=all
```

Type **<Ctrl>x <Ctrl>s** to save what you just entered (i.e., hold the **<Ctrl>** key and press **x**, then hold the **<Ctrl>** key and press **s**). Press **<Ctrl>x <Ctrl>c** to exit emacs. (See the document entitled *Gnu EMACS Short Form* for more details on using Emacs)

Use the **ls** command to list the files in your directory. Note that you now have a file called *try1.sps*.

Step 2:

Enter the following command at your terminal to submit the SPSS statements and data contained in *try1.sps* for processing (do not include the first “>” - that is the terminal prompt).

```
> spss -m try1.sps > try1.out
```

After the job runs, SPSS will create a file called *try1.out*. This file will contain the output of the SPSS job. In addition, SPSS will display a message on your terminal informing you that the job has completed. For example:

```
End of job: 9 command lines 0 errors 0 warnings 0 CPU seconds
```

Use the **ls** command to list the files in your directory. Note that you now have a file named *try1.out*.

Step 3:

View the *try1.out* file using either Emacs (**emacs try1.out**) or the more program (**more try1.out**).

Step 4:

Print *try1.out* (if you wish) using the **lpr** command (contact the RUCS Information Center for details on setting a preferred printer and bin for printed output).

```
lpr try1.out
```

Running Time-Consuming SPSS Jobs

When running the sample SPSS job described above, you probably noticed that the terminal prompt (>) did not re-appear until all SPSS statements had been executed (i.e., until the job was finished). As a consequence, no additional programs (e.g., emacs, zmlite, etc.) could be run until SPSS was finished. Although the small sample job you submitted resulted in only a short delay, larger and more time-consuming jobs could tie up your terminal for long periods, thus preventing you from doing additional work.

In order to force the terminal prompt to re-appear immediately after the SPSS job is submitted, the job must be submitted for background processing. An SPSS job submitted for background processing runs while you use your terminal for running other programs.

To run an SPSS job in the background, add an “&” to the end of the SPSS command you type at your terminal (e.g., `spss -m try1.sps > try1.out &`). The system will display the process id (PID: a tracking number assigned by the computer’s operating system) of the SPSS job and will then return you to the terminal prompt. You can then run other SPSS jobs, run other programs, or logout. None of these actions will affect the SPSS job running in the background.

To check on the status of a SPSS job running in the background, use the `ps` (process status) command. The `ps` command will display the process identification number (PID) of each process currently running and the name of the program associated with the process. If the PID for a SPSS process is listed when you use the `ps` command, then that SPSS process is still running. If the PID is not listed, the SPSS process/job has completed and you may view the Log and Output files.

Learning More

Visit the RUCS Information Center (128 Hill Center, Busch Campus) for copies of other SPSS-related and UNIX-related documents. The Information Center also has reference copies of SPSS manuals available for use.