Abstract

This document introduces the SAS System UNIX Primer, which is a separate document that provides a basic overview of the SAS System running in the UNIX environment.

The SAS® System UNIX® Primer: Using the SAS System under UNIX Operating Systems (Version 6) is a document which accompanies a 3-hour course offered through UCNS as a public lecture/workshop. The material is based on Version 6 of the SAS System and is designed for supported UNIX operating systems.

It introduces users at all levels to the concepts of using SAS in the UNIX environment and should lead to an overall understanding of using the SAS System under the UNIX environment. It is particularly useful to those who have recently migrated to the UNIX operating system from DOS or Mainframe environments.

Introduction

Understanding the SAS System with its full complement of procedures and programming capabilities is a phenomenal task for a user at any level. Understanding the environment in which SAS operates is often an equally formidable task. At the University of Georgia, we have attempted to document in a short, concise handout some of the "environmental" considerations that new users to SAS or SAS users new to the UNIX operating system might find useful when converting or beginning to learn SAS in a new environment.

This paper highlights some of the topics covered in the SAS System UNIX Primer. The Primer deals primarily with "using" SAS on computers under UNIX operating systems. Topics include the ways in which a user can "connect" to the UNIX system and how they can invoke SAS once they get there, pitfalls to avoid and some interesting "low-documented" features of SAS in these environments. Also, some discussion of key mappings, X-windows and applications development environments will be discussed.

SAS software is available on a variety of UNIX platforms including the following operating systems: SunOS, Solaris, AIX, Convex-OS, HP and Ultrix. Generally, I will refer to all of the operating systems as UNIX and point out the unique flavors where appropriate.
2. Modes of execution and invocation
3. Printing
4. Communications and Emulation

Programming with SAS: The DATA STEP
1. Reading data from raw data files
2. Basic data manipulation with SAS programming statements
3. Data errors and missing values

SAS/GRAPH Workshop
1. Understanding the graphics environment
2. Generating simple charts and graphs
3. Enhancing output
4. Managing output

Advanced SAS Topics: Combining SAS Data Sets
1. Understanding SAS Libraries
2. Concatenating and Merging SAS data sets

Advanced SAS Topics: DATA Step Programming
1. DATA step programming review
2. Using SAS Functions
3. Generating data with DO-LOOPS
4. Processing variables in ARRAYS

Advanced SAS Topics: Macro Programming
1. Understanding Macro Variables
2. SAS Programming: Compilation and Execution
3. Elementary Macro Programming

Understanding the Operating Environment

The goal of all of these courses is to bring people closer to understanding SAS and the host specific features of SAS. When we teach these courses, we tend to stress using the Program Editor for learning the SAS because it is easy to get overwhelmed by the OS itself, the editor, batch queues, printing, submitting and retrieving output and managing files. That way, we can concentrate on using SAS and not on learning everything at once.

Since the course which covers SAS in the UNIX operating system is a self-contained set of materials, they will not be reproduced here. Rather an outline will be presented. The SAS System UNIX Primer is available in hardcopy format from the author or via internet from the University of Georgia. In the near future, my hope is to have an HTML version on UGA's world wide web server (http://www.uga.edu).

The SAS System UNIX Primer
About this document
Document Description
Acknowledgments
Introduction
1. The UNIX Operating System
   1.1 A very brief look at UNIX history
   1.2 What is a UNIX shell?
   1.3 How do I know which shell to use?
   1.4 What features do these shells have?
   1.5 How can I change my current shell?
   1.6 What are "files" and "directories"?
   1.7 What are some useful UNIX commands to get me started?
   1.8 How do I find the creation time of a file?
   1.9 How do I undelete files if I accidentally erase them?
   1.10 What is vi and how do I use it?
   1.11 How can I receive 'help' while on the system?
2. The SAS System in the UNIX Environment
   2.1 Supported Environments
   2.2 Methods of submitting SAS programs
   2.3 Selecting a Mode of Execution
      2.3.1 Batch Mode
      2.3.2 Delayed Processing
      2.3.3 Interactive
      2.3.4 Non interactive Execution
      2.3.5 Interactive Window Execution
2.4 How do I change where my Log and Output files go to?

2.5 How do I get out of an interactive SAS session?

2.6 How do I monitor a background job?

2.7 In a SAS Batch job, how do I get the name of the program that was executed?

2.8 How do I tell if a SAS job is currently running?

2.9 How do I interrupt or terminate my SAS session (e.g., interactive or background process)?

2.10 Using Large Data Sets in the UNIX Environment

2.11 What are the different ways to invoke SAS under UNIX?

2.12 Where does SAS keep the temporary files while the program is running?

2.13 How do I change the location of the temporary space?

2.14 How do I compress a large raw files or SAS data sets to save space?

2.15 How do I clean up if SAS ends prematurely?

2.16 How much memory is given to SAS for running jobs?

2.17 How much memory is given to SAS for sorting my data?

2.18 How do I “automatically” create a SAS data set that can be shared (read/write, no-locking) with other members of my group?

3. Understanding Terminal Emulation

3.1 Setting Your Terminal Type and Keyboard Configuration

3.1.1 How do I know what terminal type I am using?

3.2 What is a character based or ASCII terminal?

3.3 The X-Windows Interface

3.3.1 What is X-Windows and how do I set up my computer to run SAS using the X-Windows interface?

3.3.2 What are some of the X-Windows Features for SAS?

3.3.3 What are some of the basic features of SAS under X Windows?

3.3.4 How do I change my window settings under X-Windows (for example, window size)?

3.4 Using SAS Under the Display Manager

3.4.1 What are the primary windows in SAS?

3.4.1.1 What is the Program Editor?

3.4.1.2 How do I use or create files within the UNIX operating system that I can use with SAS?

3.4.1.3 How do I include external files and writing out the contents of the editor or any other window?

3.4.2 What are some other windows in SAS?

3.4.3 What is the Keys window?

3.4.4 What are some other Keys and Functions in interactive SAS?

3.4.5 How do I use Menus under DMS?

3.4.6 How do I execute a SAS Program?

3.4.7 How do I move between windows?

3.4.8 How do I save the contents of a window?

3.4.9 How do I recall a program that I submitted?

3.4.10 What is SAS/ASSIST?

3.4.10.1 How do I access SAS/ASSIST?

3.4.10.2 What are some of SAS/ASSIST's major features?

3.5 How do I use another editor other than the Program Editor (e.g., vi or EMACS)?

3.6 How do I save and access temporary and permanent SAS data sets?

3.7 Printing from the SAS System

3.7.1 How can I check the printer queue and kill a print job?

3.8 How do I produce graphics with SAS?
3.9 Some differences between SAS on other operating systems

3.9.1 Personal Computer Environments

3.9.1.1 Why did the people who wrote UNIX use different commands from MS-DOS?

3.9.1.2 Differences between SAS on UNIX and the DOS 6.04 Version

3.9.2 IBM Mainframe Environments

3.9.2.1 What are some of the differences between SAS on UNIX and the IBM Mainframe?

3.9.3 How do I move SAS files to and from other environments?

3.9.3.1 Moving Text Files

3.9.3.2 Moving System Files (SAS Library Files or SAS Datasets)

3.9.3.3 Moving SAS Files Across Various UNIX Systems: Summary

4. Sources of Assistance

4.1 SAS on-line help and man pages

4.2 Help documentation

4.3 SAS Manuals

4.3.1 Other SAS introductory guides


4.4 UNIX Books

4.4.1 What books are available for learning UNIX?

4.5 Internet Resources

4.5.1 Internet Resources for finding answers to UNIX questions?

4.5.2 Internet Resources for finding answers to SAS questions?

Conclusion

Using SAS in the UNIX environment can be an intimidating experience initially. The SAS System UNIX Primer was designed to aid the first time user of SAS or SAS users new to the UNIX operating system. Presented as a series of questions and answers, the Primer provides quick reference to anyone wanting to learn SAS in this environment.

References

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Further Information

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