

UNIX® SYSTEM V ADMINISTRATION

General:

This course provides an overview of the tools and utilities available under the UNIX System V Operating System with respect to system administration. It gives the students insight into areas involved in the administration of a UNIX computer system.

Objectives:

Upon successful completion of this course, the student will be able to:

- Describe what is expected of the UNIX System Administrator.
- Describe basic hardware components.
- Describe different types of software.
- Describe the layout of the UNIX file system.
- Describe the stages of *boot* and *shutdown* during the operation of the UNIX Operating System.
- Describe system *backup* commands and procedures.
- Identify and describe the program executed when logging in.
- Use *crash* to analyze an active system or system dump.
- Administer *cron*, *at* and *batch* jobs.
- Use *sar* to monitor system performance.
- Use accounting software to monitor system usage.
- Administer the *uucp* software system.
- Administer the *lp* spooling system.
- Describe security checks and balances.

Audience:

New System Administrators, Technical Users, and Programmers who require an understanding of the administrative responsibilities involved in managing a UNIX system.

Prerequisites:

Introduction to UNIX and Shell Programming courses or equivalent experience.

Duration:

Five (5) days including classroom lecture and lab sessions.

**UNIX SYSTEM V ADMINISTRATION
COURSE OUTLINE**

I. INTRODUCTION

- A. Role of the UNIX System Administrator
- B. Site Preparation
- C. Site Maintenance

II. HARDWARE

- A. General Hardware Components
- B. Communications
 - 1. Serial
 - 2. Parallel
- C. Other Devices

III. SOFTWARE

- A. Types of Software
- B. Parts of the Operating System
 - 1. Boot Block
 - 2. Pump Code
 - 3. UNIX Operating System Versions
 - 4. Process/Memory Manager
 - 5. File System
 - 6. Device Drivers
 - 7. System Calls

IV. FILE SYSTEM

- A. Maintaining the File System
- B. Parts of a File System
 - 1. Super Block
 - 2. Inode

File System Commands

V. LOADING, BOOTING, AND SHUTDOWN

- A. BOOT Procedure
- B. init
- C. /etc/rc and /etc/brc
- D. /etc/getty and /etc/gettydefs
- E. shutdown

VI. BACKUPS

- A. Devices Used
- B. When should Backups be done
- C. What should be backed up
- D. Commands
 - 1. volcopy
 - 2. find and cpio
 - 3. dd
 - 4. tar
 - 5. finc, and frec
 - 6. tapesave and filesave
 - 7. dcopy

VII. LOGGING IN

- A. Set-Up
 - 1. Hardware
 - 2. Software
- B. User Maintenance
 - 1. Adding a user
 - 2. Deleting a user
 - 3. Customizing a user's environment
- C. Passwords
 - 1. Dialup
 - 2. Administrative

VIII. MEMORY MANAGEMENT

- A. Concepts
- B. UNIX System Tables
 - 1. Process
 - 2. Shared Text
 - 3. Inode
 - 4. File
 - 5. Memory/Swap
 - 6. Mount
 - 7. Callout
 - 8. Device Driver
 - 9. Tunable Parameters

IX. CRON AND AT

- A. cron Administration
 - 1. crontab Format
 - 2. Scheduling
 - 3. Permissions
 - 4. cron Log
- B. at and batch Commands

X. MONITORING THE SYSTEM

- A. Features
- B. sar
- C. sag and sadp
- D. /etc/crash
- E. Additional Commands

XI. SYSTEM ACCOUNTING

- A. Accounting Administration
 - 1. Set up
 - 2. Directories
 - 3. Data Collected
 - 4. Reports
 - 5. Commands

XII. INTRA AND INTER COMMUNICATIONS

- A. Intra Communication Methods
- B. Inter Communication Methods
- C. uucp Administration
 - 1. Directories
 - 2. spool Directory
 - 3. uucppublic Directory
 - 4. Set up
 - 5. Commands

XIII. CONNECTING A PRINTER

- A. Hardware
- B. lpadmin
- C. Debugging

XIV. SYSTEM SECURITY

- A. Internal
- B. External