

INTRODUCTION TO LINUX

General:

This course will provide an in-depth introduction to the effective use of the LINUX Operating System at the command line level. Topics covered include the operating system's major features and facilities, frequently used commands, command usage, the vim text editor, the File System, user communication, file access permissions, redirection of input and output, and job control. Although the course can be used for any version of LINUX, Red Hat LINUX is used to provide the examples.

Objectives:

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

- Log onto and off a LINUX system.
- Use a GUI desktop to launch a terminal session
- List the types of LINUX files.
- Describe and use various LINUX commands and command line options.
- Use the command history mechanism provided by the Shell.
- Access the on-line documentation for a command.
- Use the LINUX visual editor to create and modify files.
- Use Regular Expressions to match patterns of characters.
- Describe and use the file system capabilities provided by LINUX.
- Communicate with other users.
- Protect files from unauthorized access using the LINUX file permission capabilities.
- Redirect input and output to and from LINUX commands.
- Initiate background (asynchronous) command execution.
- Use the job control mechanism provided by the Shell.

Audience:

Programmers, Analysts, Managers, Technical, and Non-Technical Users who require a basic knowledge of how to use the LINUX Operating System.

Prerequisites:

None. Some understanding of computer systems would prove helpful.

Duration:

Three (3) days. Class consists of classroom lecture and nine (9) lab sessions.

*INTRODUCTION TO LINUX
COURSE OUTLINE*

I. INTRODUCTION TO THE LINUX OPERATING SYSTEM

- A. Capabilities of the LINUX System
- B. Hardware vs. Software
- C. Typical LINUX configurations
- D. Standard POSIX interfaces
- E. LINUX vs. UNIX
- F. Setting up the Terminal
- G. Logging on and off
- H. Correcting Typing Errors
- I. Graphical vs. Command Line Interface (GNOME and KDE)

II. FILES AND SIMPLE COMMANDS

- A. Definition of a File
- B. File Naming Conventions
- C. File Types
- D. LINUX System Command Syntax
- E. Listing, Viewing, Copying, Moving, and Removing Files
- F. Using the User Reference Manual
- G. Using the man command

III. LINUX SYSTEM TEXT EDITOR

- A. Editor Features
- B. Relationship of Editor to Shell
- C. Editor Command Syntax
- D. Putting Text into the Buffer
- E. Viewing, Copying, Moving, Deleting and Modifying Text
- F. Saving the Buffer
- G. Leaving the Editor

IV. FILE SYSTEM

- A. File System Structure
- B. The Home Directory
- C. Usage of Directory Files
- D. Printing, Creating, Changing, and Removing Directories
- E. Pathnames
- F. Special Directory Names
- G. Special Filename Generation Characters

V. COMMUNICATION

- A. Sending and Receiving Electronic Mail
- B. Communicating Immediately with Another User
- C. Communicating with the System Administrator

VI. EDITOR REVISITED

- A. Additional Editor Commands
- B. ex vs. vi
- C. Line Addressing Capabilities
- D. Setting the Editor Environment
- E. Searching for Patterns
- F. Regular Expressions and Special Characters

VII. FILE PERMISSIONS

- A. Ordinary Files
- B. Directory Files
- C. Determining File Permissions
- D. Changing File Permissions
- E. Numeric vs. Symbolic Representation
- F. Setting Default File Permissions

VIII. ADDITIONAL LINUX SYSTEM COMMANDS

- A. Interrogating Files
- B. Comparing Files
- C. Miscellaneous Commands
- D. Command Line History

IX. STANDARD INPUT AND OUTPUT

- A. Definition of Standard Input and Output
- B. Input/Output Redirection
- C. Pipelines
- D. Filters
- E. Job Control
- F. Foreground and Background Command Execution