

This five-day course provides the student with the knowledge to use Linux both as an end user and as an entry-level system administrator. Students will learn the basic command line utilities to navigate the file system and manipulate files, including use of the vi editor and file permissions. The course includes an overview of the available Linux GUI front ends, and specifically looks at the configuration and use of Gnome. System administration topics such as job control, installation and configuration are covered before the basic admin tasks of installing packages, managing users, and booting the system.

Course Objectives:

- Describe what Linux is and where it came from.
- Use and configure the Gnome desktop.
- Perform basic file system tasks such as listing files and creating and removing directories.
- Mount and unmount a device such as a CD-ROM.
- Search through files and directories using the grep and find commands.
- Redirect command output using pipes and tees.
- Use variables in both the bash and tcsh shells.
- Set permissions using the chmod and umask commands.
- Edit files using the vi editor.
- Control jobs and processes using commands such as fg, bg, kill, and nice.
- Archive and compress files with tar, gzip, and zip.
- Install a Linux distribution.
- Install, upgrade, and uninstall software with RPM.
- Maintain user, group, and system accounts.
- Administer global and local initialization files for the bash and tcsh shells.
- Describe the Linux boot sequence.
- Use crontab and at to schedule commands to run in the future.t permissions using the chmod and umask commands.

Audience: End-users and programmers who are new to the Linux environment.

Prerequisites: None

Number of Days: 5 days

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| <p>1. Basic Linux Concepts
 Definition of Linux
 History of Linux
 Basic Linux Terms
 Accessing a Linux Machine
 Logging In
 Passwords</p> | <p>3. The Filesystem
 Definition of Filesystem
 Filesystem Terms
 Using Pathnames
 Listing Files
 Making Directories
 Removing Directories</p> |
| <p>2. Using the GUIs
 Linux GUI's
 Using Gnome</p> | |

- Accessing CD-ROM and Floppy Drives
- 4. Handling Files**
 - Copying Files
 - Moving Files
 - Removing Files
 - Looking at the Contents of Files
 - Useful Commands
- 5. File Manipulation**
 - Word Count
 - Man Pages
 - Filter Commands
 - sort
 - cmp
 - diff
 - comm
 - Finding Files
 - Finding Commands
- 6. Metacharacters**
 - Definition of Metacharacters
 - The ; Character
 - "Wildcards"
 - Redirection
 - Using tee
- 7. Shell Features**
 - Variables
 - Variable Usage in the BASH Shell
 - Variables Usage in the TCSH Shell
 - Aliases
 - Quoting
 - Name Completion
 - Command Line Editing
- 8. File Security**
 - Basic Linux Permissions
 - Setting Default Permissions
- 9. The vi Editor**
 - What is vi?
 - vi Modes
 - Movement Commands
 - Input Commands
 - Delete and Search Commands
 - Advanced Commands
- 10. Jobs and Processes**
 - Starting Jobs
 - Pausing Jobs
 - Restarting Jobs
 - Stopping Jobs
- Using nohup
- Controlling Job Priority
- 11. File Compression**
 - tar
 - gzip
 - zip
 - Additional Compression Commands
- 12. Installation**
 - Hardware Requirements for Linux
 - Installation Methods
 - Installation
- 13. Advanced Installation**
 - Kickstart
 - Expert Installation
 - Network Installation
- 14. Post Installation**
 - LILO & GRUB
 - Basic Network Configuration
 - Post Install File
 - Displaying Disk Usage by Directory
 - Displaying Disk Usage by File System
 - Configuring the X Window System
 - Additional Configurations (keyboard, mouse, etc.)
- 15. Software Administration**
 - Using RPM
 - Listing Package Information
 - Removing Packages
 - Installing Packages
 - Updating Packages
 - Verifying Package
 - Additional RPM Features
 - Red Hat Network
 - GUI Tools
 - Installing Non-Packaged Software
 - Finding software
 - Package management with Debian
- 16. Maintaining User Accounts**
 - The /etc/passwd File

- The /etc/shadow File
- The /etc/group File
- The /etc/gshadow File
- The groupadd Command
- The groupdel Command
- The groupmod Command
- The gpasswd Command
- The grpck Command
- The useradd Command
- The userdel Command
- The usermod Command
- Additional Change User Commands
- GUI Tools

17. Administrating Initialization

- What are Initialization Files?
- A Review of Common Customizations
- The bash Shell Initialization Files
- The tcsh Shell Initialization Files
- Testing Initialization Files
- Additional login files

18. The Boot Process

- The Boot Sequence
- Run Levels
- The init Phase
- Changing to Different Run Levels
- Modifying Run Levels

19. crontab and at

- Using crontab
- The anacron script
- The at command

20. Appendix A – Preparing for Certification Exams

21. Appendix B – Preparing for RHCE and RHCT Exams

22. Appendix C – Preparing for the LPI Exams

23. Appendix D – Preparing for the Linux+ Exam