



Linux Operating System

Course: CIS126DL	Lec + Lab 3.0 Credit(s) 4.0 Period(s) 4.0 Load
First Term: 2018 Fall	Course Type: Occupational
Final Term: Current	Load Formula: T

Description: Introduction to the Linux Operating system. Develop knowledge and skills required to install, configure and troubleshoot a Linux-based workstation including basic network functions. Learn basic command line and Graphical User Interface (GUI) desktop environment utilities and applications. Fundamental abilities to achieve the entry-level industry certification covered

Requisites: None

MCCCD Official Course Competencies

1. Understand the history and nature of Open Source software (I)
2. Demonstrate ability to install a variety of Linux distributions. (II)
3. Compare and contrast variety of Linux distributions (II)
4. Navigate the Linux file system hierarchy (II)
5. Create, manage, and delete user accounts, groups and permissions. (II)
6. Demonstrate basic Linux shell commands including file and directory commands, archiving and compression. (III)
7. Use the Visual Editor (Vi) to edit and create text documents. (III)
8. Configure printers for use on a workstation or network. (IV)
9. Understand X Window system architecture. (IV)
10. Use graphic utility to configure graphic display. (IV)
11. Research shell commands using the \226help option and Manual (Man) pages. (V)
12. Install applications using Red Hat Package Manager (RPMs) and compression utilities such as Tape Archive (tar) and gzip. (V)
13. Use network-based applications such as browsers, telnet, file transfer protocol (FTP) and email. (V)
14. Demonstrate knowledge of a variety of GNU Object Model Environment (GNOME) and K Desktop Environment (KDE) applications. (V)
15. Troubleshoot problems related to operating system installation and configuration. (VI)

MCCCD Official Course Outline

- I. Theory of Operation
 - A. History of Open Source and Free Software
 - B. How the Free Software Foundation's (FSF) GNU (GNU's Not Unix) Project lead to the General Public License (GPL)
 - C. Third Party Analysis of Open Source Software
 - D. Living with Free Software
 - E. Linux System Concepts
 - F. Main Board Configuration Issues
 - G. Network Configuration
- II. Base System
 - A. Installation Media

VII. Installation Media

- B. Component Compatibility and Configuration Responsibilities
- C. Describe several Linux distributions and their tradeoffs
- D. Installation of Linux
- E. Compare and Contrast several Different Distributions of Linux
- F. Start Up and Shut Down Sequences
- G. File System Hierarchy
- H. Basic System Navigation
- I. Manage User Accounts

III. Shells and Commands

- A. The Shell
- B. Single character commands (interrupt, erase, etc.)
- C. The ls command - directory listing
- D. The cd command - change directory
- E. More and less commands - pager utilities
- F. The cp command - copy a file
- G. The ln command - duplicate a directory or filename
- H. The mv command - move or rename a file
- I. The mkdir command - make a directory
- J. The rm command - remove a file
- K. The rmdir command - remove a directory
- L. The head and tail commands - peak at beginning or end of a file
- M. The file command - view the file type
- N. The grep command - search files for a target string
- O. The du and df commands - show disk usage and free space
- P. The tar command - places multiple files into one archive
- Q. The gzip, gunzip, and zcat - un/compression utilities
- R. The mtools - read and write MS-DOS files quickly
- S. The find and locate - search for names in the file system
- T. The Visual Editor (Vi) text editor

IV. System Services

- A. Device Driver Utilities
- B. Printer Configuration
- C. The X Window System Architecture
- D. Window Managers

V. Applications

- A. Gathering Information
- B. Network Applications including browser, email, telnet, secure shell, and file transfer
- C. Text, Mark-up and Word Processing Programs
- D. Office Applications
- F. Graphics Applications

VI. Installation Troubleshooting

- A. Linux Loader (LILO) and boot problems
- B. Creation of rescue disks
- C. Locked applications and processes
- D. Printing errors
- E. System logging

MCCCD Governing Board Approval Date: **12/9/2003**

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