Duration: 1 Month

Linux Fundamentals

Overview:

For students who are new to the Linux environment, this course provides a complete introduction to Linux. To get the most out of Linux, students will learn how to manage files and directories, use the vi editor, work with Linux security mechanisms to protect files and programmes, use the Linux
shell to control the flow and processing of data through pipelines, design and write moderately complex shell programmes, and manage multiple concurrent processes.

What you'll learn :

- ➢ Linux Overview
- ➢ Basics of UNIX
- ➢ File system
- ➢ Working with files & directories
- ➢ Users & Group management
- ➢ Working with CLI

Targe t Audience :

The Cyber Forensics course will significantly benefit:

- ➢ Law enforcement professionals
- ➢ First Responders
- ➢ Students and Teachers

Prerequisite Knowledge :

Participants of this course are assumed to be familiar with at least one operation system concepts.

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Course Outline:

Module 01: Getting Started

- What is UNIX?
- A Brief History of UNIX
- Try a Few More Commands
- Using On-line Manuals
- Logging In & Out

Module 02: File Systems & Directories

- What is a File?
- Working with Files
- Hierarchical File System Working with Directories

Module 03: Editing With vi

- What is vi?
- Command Mode and Insert Mode
- Getting Started
- Inserting Text
- Save Your Work or Abort the Session
- Review of vi Commands

Module 04: Personal Utilities

- The date Utility
- The bc Utility
- The expr Utility
- The cal Utility
- The uname Utility
- The script Utility
- Appendix: The at and crontab Utilities

Module 05: Text Handling Utilities

- The grep Utility The tr Utility
- The cut Utility The paste Utility The sort Utility The wc Utility The diff Utility The lp Utility

Module 06: File System Security

- File Permissions
- The chmod Utility
- Directory Permissions
- The umask Command

Module 07: File System Management Utilities

- The find Utility The df Utility
- The du Utility Compressing Files The ln Utility
- The ulimit Utility The tar Utility

Module 08: Communication Utilities

- The write and talk Utilities
- The mesg Utility
- Mail Overview
- The mail Utility
- The mailx Utility

Module 09: Using the Shell

- What is a Shell?
- Which Shell?
- The Command Line
- Standard Input, Standard Output and Standard Error
- Using Default Standard In and Standard Output
- Appending Output of a file
- Pipes
- The tee utility

Module 10: UNIX Processes

- What is a Process?
- Process Structure
- The ps Utility
- Options to the ps Utility
- Background Commands
- Killing Background Processes Redirecting the Standard Error

Module 11: Shell Programming Concepts

- What is a Shell?
- What is a Shell Script? Why Use Shell Scripts?

Module 12: Variables

- User Created Variables The read Command The Shell Environment The export Command Sub-shells
- Command Substitution

- Quoting Mechanisms
- Assigning Variables – Summary

Module 13: Special Variables

- User Created Variables The read Command The Shell Environment The export Command Sub-shells

Module 14: Getting Started with Linux

- Linux Distributions
- Free Software and Open Source Movements Logging in and out
- Changing password
- man and info pages

Module 14: Networking Utilities – Linux

- Remote Login with telnet
- Remote File Transfer With ftp
- Secure Login With ssh
- Secure File Transfer With scp
- Text-Based Web Access with lynx
- Web Access with wget and curl
- Samba Server Overview
- The smbclient Utility
- NFS File Sharing Overview

Module 15: X Windows and Desktops – Linux

- The X Window System
- Using X
- Window Managers and Desktops

- The Gnome Desktop
- The KDE Desktop
- Applications: The GIMP
- Applications: OpenOffice
- Applications: Web Browsers