

Linux System Fundamentals

Learn via: **Classroom / Virtual Classroom / Online**

Duration: **5 Gün**

Overview

Birçok kurum, muhtemelen program geliştiricilerine istedikleri platformu kullanabilmeleri için seçenek sunmak, ağ sunucusuna alternatif sağlamak veya belki de güvenlik bulmacasına bir parça daha eklemek amacıyla mevcut altyapılarına Linux makinelerini de eklemektedirler. Linux sistemleri ayrıca sanallaştırma ortamlarının (örneğin, VMware veya XEN, KVM veya VPC kullanımı ile) bir parçası olarak da kullanıma sunulmakta olup tek bir iş istasyonundan veya sunucudan bir dizi işletim sistemine erişim imkanı da sunmaktadır. Bu eğitim, kullanıcı ve yönetici görevleri ve faaliyetlerini kapsayan birçok farklı konuyu ele alarak katılımcılara Linux teknolojisi ile başarılı bir geleceğe kendilerini hazırlamak için gereken becerileri kazandıracaktır.

Prerequisites

- Typically, delegate skills will include a good working knowledge of other contemporary operating system, and familiarity with working at the command line. This course is aimed at existing IT professionals with little UNIX or Linux experience, who require a quick start in a Linux environment, enabling them to control a Linux system swiftly and efficiently.
- Whilst no particular Linux knowledge is expected, without a doubt the best results are achieved if the delegates have experienced the system they will be expected to use or administer.

Who Should Attend

Eğitim, UNIX/Linux konusunda çok az deneyimi olan veya hiç olmayan ve Linux ortamına hızlı bir şekilde başlama ihtiyacı duyan ve böylece bir Linux sistemini hızlı, verimli ve eksiksiz bir şekilde anlayabilecek olan BT profesyonellerine yöneliktir.

Genel olarak katılımcılar, Windows veya Mac OS kullanıcıları ya da Linux ortamını ve bu ortamın sunduğu imkanları anlama ihtiyacı duyan diğer profesyoneller olacaktır (yazılım geliştiriciler, sistem veya ağ yöneticileri gibi).

What You Will Learn

At the end of this course you will be able to:

- work with Linux main shell: BASH
- navigate the filesystem and manage files and directories
- understand the client/server nature of X Window System and X applications
- edit files using vi and GUI editors
- manipulate data with a selection of filter tools
- use redirection and piping techniques
- perform basic administrative tasks, controlling processes, filesystems, job scheduling, and simple networking and backups
- reading and writing simple BASH scripts

Outline

1. 'Just For Fun'

- Linux? Why?
- Hardware, software, operating system...
- UNIX Market and place for Linux within it
- OSS (Open Source Software) principles
- GNU GPL, Linux philosophy and distributors
- Linux for networking and developers
- Introduction to objectives and coverage

2. Linux Session

- Gaining access to the system
- Ordinary users vs. the superuser
- Login process, shells and line interpreters
- Command line structure, control and examples
- Simple system interrogation utilities
- Simple file reading utilities
- File system layout and navigation
- System and user directories
- Using filenames with absolute and relative pathnames
- Getting help

3. Using Files and Directories

- File system - the user's perspective
- Directory structure
- FSH standard
- File and directory manipulation commands
- Copy, move, remove, etc
- File system - the system's perspective
- I-nodes and file attributes
- Hard links and symbolic links

4. Editing Text

- Operational modes of vi
- Command mode vs. Insert mode
- 'Colon', or 'ex' mode
- Useful vi commands
- Navigation and editing command
- Search and substitute
- Extended vi commands and vim configuration
- Alternative editors
- GUI and text choices

5. BASH - Your Interpreter

- Shell as Interpreter and command line scan
- Generating filenames with wildcards (globbing)
- Quoting (protecting special characters from the shell)
- Variable and command substitutions
- Protecting special characters for the shell
- Bash Command History
- Bash Command Line Editing

6. BASH Environment

- Shell definitions
- Creating, recalling and sharing shell variables
- Shell aliases and functions
- Character sets and localisation
- Bash variables to control these
- Controlling shell behaviour with set -o and shopt
- Interactive Start-up Files
- Start-up files for login and non-login shells

7. Who is the Boss

- The su command
- su interactive session
- Running one-off commands
- Checking who you are
- Understanding id and who am i tools
- The sudo tool
- Typical sudo session
- sudo configuration file

8. Processes

- What is a Process?
- How a process starts
- How a process ends
- The kill command and signals
- Command exit status
- Identifying Processes

- ps, top and GUI process monitors

9. Job Control

- Background jobs
- One-off deferral with at
- Daemon and job manipulation
- User access configuration files
- Spool directory
- Scheduling repeated tasks with crontab
- The cron daemon and configuration tables
- User access configuration files

10. Data Streams

- Standard data streams
- Standard output stream (stdout)
- Standard error stream (stderr)
- Standard input (stdin)
- Redirecting streams
- Redirecting standard output, error and input
- Synchronising (merging) streams
- Other methods of handling data streams
- Collecting data with sub-shells
- Using command substitution

11. Pipes and Filters

- Sending stdout to a process
- Pipes
- Multistage Pipes
- Simple Filters
- Why Use Filters?
- Problem Solving Approach
- The cut, sort, uniq, grep and tr commands
- Filter Examples

12. Basic Regular Expressions (and SED)

- Regular expressions
- What is sed
- Specifying simple instructions
- Understanding sed addressing
- Using a sed command file
- More sed editing commands

13. File Management Tools

- Using PATH to identify command origins
- The which and type commands
- Locating files
- The locate command and mlocate database
- Identifying filenames with find
- Specifying search criteria and requesting actions
- Backups with cpio, and dd and tar
- Compression tools

14. Filesystem Access

- Files, directories and filesystems
- File and directory access
- Read/write/execute permissions
- User types
- Additional permission bits
- Set user/group ID bits and sticky bit
- Using chmod, chown and chgrp to manipulate access attributes

15. Working in a Network Environment

- Basic network card configuration
- Using ifconfig tool
- GUI configuration programs exist
- Basic routing configuration
- Using route commands
- Network diagnostics

- With ping, traceroute and netstat
- Using ssh for remote shell logins

16. X Window System

- X Window System as Linux GUI Interface
- Origins and implementation
- X Window System Architecture
- Client-server communication
- Setting display access rights
- Selecting destination display
- Window managers / desktop systems
- Gnome, KDE and more...
- X Window resources
- Fonts, colours, geometry

17. Writing Shell Scripts

- Simple scripts
- Positional parameters
- Command exit status
- Selection commands
- Looping commands
- Interactive input