

# Linux System Usage

 Duration: 5 Days

 Available Languages: English

## Audience

Software Developers, System Administrators, Power Users.

## Goals

Know how to get most out of a Linux system.

## Contents

- History and Relevance of Linux
- Comparison of major Linux distributions (Debian, Raspbian, Knoppix, Ubuntu, Gentoo, Chromium OS / ChromeOS, Red Hat / RHEL, Fedora, CentOS, Scientific Linux, Fermi Linux, Oracle Linux, OpenSUSE, SLES, ArchLinux, Android, CyanogenMod)
- Comparison of Linux with other UNIX operating systems (Solaris, IRIX, Mac OS X, BSD)
- Comparison of major Linux Desktops (KDE, Gnome, Unity, Xfce)
- Licensing of Linux (GPL, LGPL, BSD, CC etc.)
- Shell  $\backslash$ : Basic Shell Usage (Commands, Arguments, Options, Subcommands); Shell vs Terminal; Launching Commands
- File System Structure
  - # The trees under `/`, `/usr/` and `/usr/local/`
  - # Unique directories `/boot/`, `/dev/`, `/etc/`, `/home/`, `/opt/`, `/proc/`, `/root/`, `/var/`
  - # Duplicate directories `bin/`, `include/`, `lib/`, `sbin/`, `share/`, `src/`
  - # procs and syfs
- File System Navigation Commands `pwd`, `cd`, `ls`, `touch`, `mkdir`, `rmdir`, `rm`, `cp`, `file`, `rsync`
- File Commands `cat`, `tee`, `tac`, `head`, `tail`, `more`, `less`, `grep`
- Basic Usage of `sed` and `awk`
- Processes, Pipes and Redirection
  - # Job Control
  - # `fork()` and `exec()` from a user perspective
  - # `ps`, `pstree`, `top`, `kill`
  - # `mkfifo`, `stdin`, `stdout`, `stderr`, Pipes, `set -e`, `set -o pipefail`
- File Systems, Mounting and Devices
  - # Block devices, Character devices
  - # `mount`, `umount`, `eject`, `/etc/fstab`, `/etc/mtab`
  - # Partitioning, `fdisk`, `parted`
  - # Loop Devices
  - # `ext2`, `ext3`, `ext4`, `xfs`, `jfs`, `btrfs` and other significant file systems
- File Permissions and File Security
  - # `read/write/execute`; `setuid`, `setgid`, `sticky`; `chmod`, `chown`; `umask`
  - # ACLs, `setfacl`, `getfacl`

- # User and Account Management, /etc/passwd, /etc/group, /etc/shadow, /etc/gshadow
- Package Management rpm, dpkg, apt / aptitude, pacman
- Archives and Compression tar, gzip, bzip2, zip, jar
- Networking Overview: Samba, NFS/NIS, LDAP
- Virtualization Overview: chroot, LXC, LXD, Docker

## Booking

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