



# Accelerated Linux Administration

## **Course Description**

This crash-course in Linux system administration moves fast. It is designed for administrators of IT departments that are experienced administering UNIX systems.

## **Course Length**

4 days.

## **Audience**

Experienced UNIX administrators that need a fast, intense, varied Linux admin course. This course does not cover all of the fundamental Linux admin skills that are covered in the three course sequence [Linux System Administration 1](#) through [Linux System Administration 3](#).



## 1. Linux Distributions/ Versions

- 1.1. 2.4, 2.6
- 1.2. Red Hat/SuSe/Knoppix/Debian/...

## 2. Installation

## 3. Hardware/ Device Files

- 3.1. /proc/pci
- 3.2. lspci
- 3.3. USB
  - 3. 1. 1. usbview
  - 3. 1. 1. lsub
- 3.2. /dev/\*
- 3.3. locate devices.txt
- 3.4. hwbrowser (RH specific)
- 3.5. hdparm
- 3.6. scsi\_info
- 3.7. /proc/scsi/scsi
- 3.8. proc/\*
- 3.9. memory (free, /proc/meminfo)
- 3.10. ifconfig
- 3.11. /etc/sysconfig/hwconf (RH specific)
- 3.12. date/hwclock

## 4. Documentation

- 4.1. man
- 4.2. info
- 4.3. .ps
- 4.4. .pdf
- 4.5. html
- 4.6. /usr/share/doc/\*
- 4.7. Linux Documentation Project
- 4.8. google.com/linux

## 5. Config/log file difference

- 5.1. /etc/fstab vs. /etc/vfstab
- 5.2. /var/log/messages

## 6. TroubleShooting

- 6.1. lsof
- 6.2. strace
- 6.3. ltrace

## 7. Admin Tools

- 7.1. Redhat:
  - 7. 1. 1. Redhat\*
  - 7. 1. 1. Setup
- 7.2. SuSe:
  - 7. 1. 1. yast
- 7.2. Webmin
- 7.3. CUPS
- 7.4. SWAT



## 8. GUIs

- 8.1. X server
- 8.2. GNOME
- 8.3. KDE

## 9. Boot Sequence (RH specific)

- 9.1. ettc/init.d
- 9.2. ettc/rc\*
- 9.3. etc/sysconfig/network\*
- 9.4. locate sysconfig.txt
- 9.5. chkconfig

## 10. Storage Administration

- 10.1. disk device files
- 10.2. Disk (fdisk/parted) partitions
- 10.3. LVM (compared to VxVM on Solaris)
- 10.4. resizing fdisk partitions and LVM logical volumes
- 10.5. ext2/ext3/reiserfs
- 10.6. e2label
- 10.7. mount -o remount

## 11. Kernel

- 11.1. make xconfig et al.

## 12. Device Drivers

- 12.1. lsmod et al.
- 12.2. /etc/modules.conf
- 12.3. hotplug
- 12.4. cardmgr

## 13. GRUB

- 13.1. /etc/grub.conf
- 13.2. initrd
- 13.3. kernel command args
- 13.4. single user mode
- 13.5. system recovery

## 14. /proc/sys and ulimit

- 14.1. /proc/sys/\*
- 14.2. /etc/security/limits.conf (RH specific)
- 14.3. /etc/sysctl.conf

## 15. RPM

- 15.1. rpm
- 15.2. redhat-config-packages
- 15.3. yast
- 15.4. yum
- 15.5. up2date
- 15.6. building from source

## 16. Network configuration (RH specific)

- 16.1. /etc/sysconfig/network\*
- 16.2. ifup
- 16.3. ifdown



16.4. ip

## **17. Network Trouble shooting**

- 17.1. tcpdump/ethereal
- 17.2. netstat
- 17.3. traceroute/tracepath/mtr
- 17.4. host
- 17.5. dig
- 17.6. strace
- 17.7. iptables -vL

## **18. Security**

- 18.1. IP Tables
- 18.2. PAM + nsswitch.conf
  - 18. 1. 1. /etc/pam.d/\*
  - 18. 1. 1. PaM documentation
  - 18. 1. 1. authhconfig (RH specific)
- 18.2. Xinetd
  - 18. 1. 1. TCP Wrappers
- 18.2. /proc/sys/net/\*
- 18.3. ssh
- 18.4. sudo

## **19. UNIX integration/**

- 19.1. NFS + NIS differences from Solaris
  - 19. 1. 1. NFS:
    - /etc/exports
    - kernel nfs server, nfs client
    - NFS versions
  - 19. 1. 1. NIS:
    - Makefile
    - Config files
- 19.2. XDMCP

## **20. Samba/Windows integration**

- 20.1. Samba
- 20.2. rdesktop
- 20.3. vfat/nfts
  - 20. 1. 1. captive NTFS

## **21. Misc**

- 21.1. locate
- 21.2. bash
- 21.3. GNU commands (--long options, e.g. ls --color)
- 21.4. CD Burners

## **22. Load Sharing/ Fault Tolerant clusters**

- 22.1. Introduction to load sharing and fault tolerance.