

Linux Administration

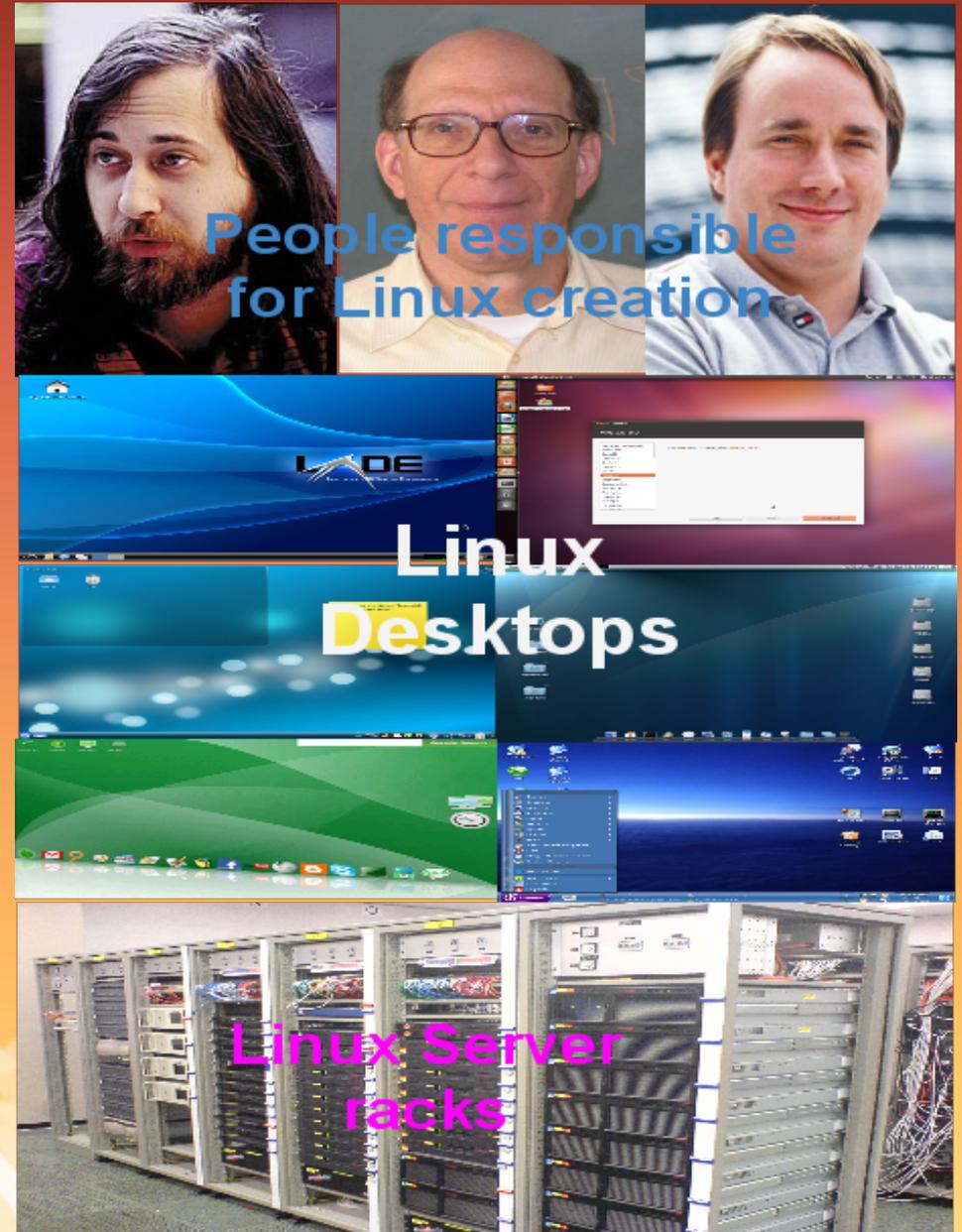
By www.linuxnix.com



Mounix Systems (<http://www.linuxnix.com>)

All about Linux and its origins

- Origins from Minix
- Developed by *Linus Benedict Torvalds* in 1990
- Slackware is the first Linux distribution available in 1991
- Redhat is Major server end Linux distribution
- Ubuntu on Desktop
- Total 450+ variants of Linux available in Market
- Desktop share of 2% and server share of 91%



Features of Linux

1. Multi user
2. Multi tasking
3. Multi processing
4. Multi platform
5. Multi processor
6. symmetric multiprocessing
7. Supports many file systems



Linux Booting Process

1. Power On
2. Post process
3. First boot device detection
4. MBR reading
5. GRUB boot loader
6. Init process(inittab)
7. Kernel initialization
8. Shell access



Run Levels

1. 7 run levels
2. init 0 to init 6
3. init 0 - Halt/shutdown
4. init 1 - Single user mode/user/disk troubleshooting mode
5. init 2 - multi user w/o networking
6. init 3 - multi user with networking and with out GUI
7. init 4 - Reserved
8. init 5 - init 3 + GUI
9. init 6 - reboot/restart
10. runlevel, who -r commands
11. Editing start-up script on runtime
12. grub.conf file
13. inittab file



Linux Terminals

- 7 Terminals
- chvt 1 to 7 or alt+ctrl+F1 to F7
- tty command
- Virtual/Pseudo terminals



Linux Directory Structure

1. /
2. /bin, /sbin, /usr/sbin, /usr/bin
3. /boot
4. /dev
5. /etc
6. /proc
7. /usr
8. /var
9. /tmp
10. /opt, /mnt, /media
11. /lib



Basic files/folders operations

- cat, vi, touch
- mkdir
- cp
- mv(rename too)
- rm
- rmdir
- dir
- ls



Advanced files/folders operations

1. Absolute path & Relative path
2. touch command creation of multiple files at a time
3. mkdir -p option and creation of multiple folders at a time
4. rm -rf
5. date command usage in creating files/folders
6. head, tail, more, less
7. Cautious commands(rm -rf, chmod, chown)



ls command explanation

1. ls -l
2. ls -lrt
3. ls -1
4. ls -i
5. ls -a



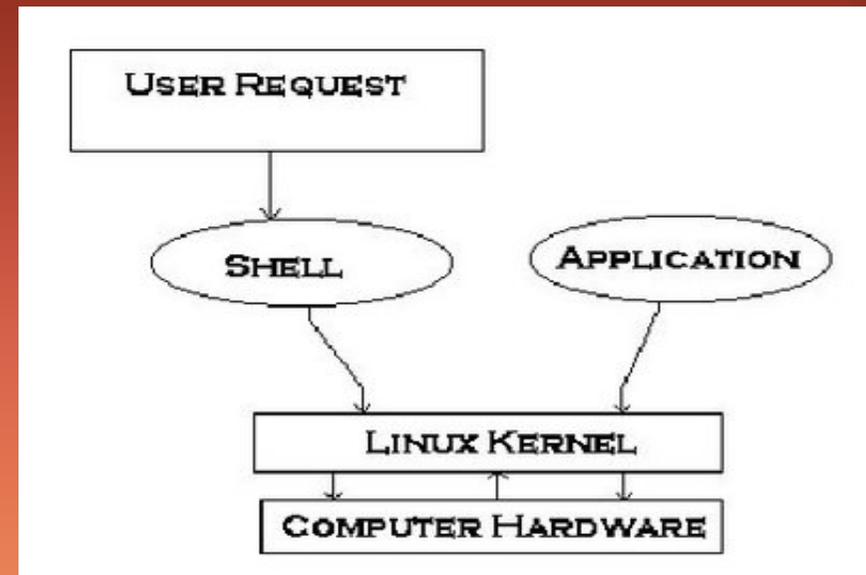
About getting Linux help

1. FSF
2. man
3. info
4. --help
5. which
6. whatis
7. whereis
8. GNU/Linux
9. www.distrowatch.com
10. www.google.com/linux



bash shell explanation

- What is a shell
- History
- auto completion
- Short cuts
- Command chaining
- |, ;, &&, ||
- Redirection operators: >, >>, <, <<, |
- .bashrc, .bash_profile, .bash_history files



VI editor - I

a. Modes of VI

- 1) Insert mode(i, I, o, O)
- 2) Command mode(Esc)

b. Navigational commands

- 1) by Character(h, j, k, l)
- 2) word(w, e, b)
- 3) start/end of line(0, \$)
- 4) setting line numbers(:set nu, :set nonu)
- 5) by line numbers(:lineno)
- 6) Moving paragraphs({{, }})
- 7) Page up/page down(ctrl+b, ctrl+f)

c) Special commands

- 1) Joining lines(J)
- 2) undo last command(u)
- 3) Redo last command(.)



VI editor - II

d. Editing commands

- 1) Delete a character(x)
- 2) Replace a character(r)
- 3) Edit a word(cw)
- 4) Delete a word(dw)
- 5) Edit on line(d\$)
- 6) cut/delete one line(dd)
- 7) copy one line(yy)
- 8) Paste(p)

f) Save and quit a file

- :w => save the file
- :q => quit the file
- :wq => save and quit
- :w! => force save the file
- :q! => force quit with out save
- :wq => save and quit forcefully

e. Search and Replace

- 1) /searchterm
- 2) :%s/searchterm/replaceterm/g
- 3) :%s_/_var/ftp/_/temp/ftp_g
- 4) :%s294,304/abc/xyz/g



Special commands

- watch
- lsof
- cut
- wc
- bc
- dd



searching commands

grep
locate
find
sed
awk



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Process management

ps
top
pgrep
pidof
pmap
smem
free



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Disk management

- file system explanation
- Creating Partitions
- du
- df
- /etc/fstab
- /etc/mtab



Archiving and compressing

tar

gzip

bzip

zip

gunzip

bunzip

unzip



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Basic network configuration & monitoring

- Basic networking
 - 1)TCP/UDP
- ifconfig
- Assigning IP address
- nmap
- ifup
- ifdown
- netstat
- tcpdump(Options: -i eth\$i, -p tcp/udp, port 22/80, -v, -vv, -vvv)
- TCP flag bits:
 - 1)SYN, 2)PSH, 3)ACK, 4)FIN, 5)RST





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Have a question?
ask a question at: <http://forums.linuxnix.com>

(or)

shoot a mail to:
surendra@linuxnix.com



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Thank You



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