System Commands

shutdown	bring the system down	shutdown -h now ← -h = Halt or poweroff after shutdown shutdown -r now ← -r : Reboot after shutdown shutdown -r -F now ← -F : Force fsck after reboot.
halt	stop the system.	halt
reboot	reboot the system.	reboot
init		init 1 #change to single usermode
uptime	Tell how long the system has been running.	uptime
runlevel	find the previous and current system runlevel.	runlevel
printenv	print all or part of environment	printenv
env	run a program in a modified environment	env
hostname	show or set the system's host name	hostname ← show the system's host name I recommend uname -n for check hostanme. hostname NEWHOSTNASME ← set the system's host name
uname	print system information	uname -a ← print all information (=uname --all) uname -n ← show the system's host name (=uname --nodename)
locale	Get locale-specific information.	locale locale -a |grep -i ja <- -a : --all-locales

Process Management

ps	report a snapshot of the current processes.	ps aux |grep httpd ← Check httpd rocess ps aux | grep XXX | awk '{print $2}' | xargs kill -9 ps auxwf ps auxwf |grep XXX
pgrep	look up processes based on name and other attributes	pgrep -f 'bash' pgrep -lf 'bash' ← output with process name pgrep -f 'bash' | xargs kill
pstree	display a tree of processes	pstree -a
pidof	find the process ID of a running program	pidof httpd /bin/kill $(/sbin/pidof qmail-popup)
kill	send a signal to a process	kill -9 PID ← (-9 or -KILL = force-quit)
pkill	signal processes based on name and other attributes	pkill -f 'bash' pkill -u user1 pkill java pkill -f jar
killall	kill processes by name	killall vi killall -i vi ← -i = Interactively killall -HUP kterm
killproc		
lsof	list open files	lsof -i lsof -i -P ← no port names lsof -i :80,443 ← Which process is using Port 80,443
Ctrl + C	Stop running process	
Ctrl + Z	Suspend running process	**Move Running Process to Background** 1. ctrl + z 2. jobs 3. bg 4. disown %JOBID
jobs	The first form lists the active jobs.	jobs -l ← List job

fg	Resume jobspec in the foreground	
bg	Resume each suspended job jobspec in the background	
nohup	run a command immune to hangups, with output to a non-tty	nohup command.sh &
disown		disown %jobid
nice	run a program with modified scheduling priority	nice -n 19 test.sh nice -n 19 ionice -c 3 CMD nice -n 19 ionice -c 2 -n 7 COMMAND
renice	alter priority of running processes	renice 19 -p PID you can check the nice whith “top” or “ps alx”.
ionice	sets or gets process io scheduling class and priority	ionice -p PID ← check ionice -c 3 -p PID nice -n 19 ionice -c 2 -n 7 COMMAND

Schedule

crontab	maintain crontab files	crontab -l ← -l = list user's crontab crontab -u USER -l crontab -e ← -e = edit user's crontab crontab -u USER -e
at	queue jobs for later execution	echo "/sbin/shutdown -h now" |at 21:00 02/30/2009 at -t 200902302100
atq	lists the user's pending jobs	atq
atrm	delete jobs for later execution	atrm JOBID
watch	execute a program periodically, showing output fullscreen	watch ntpq -p ← By default, the program is run every 2 seconds watch -n 1 ntpq -p ← 1 seconds interval -d : highlight the differences between successive updates

etc

alias	Alias with no arguments or with the -p option prints the list of aliases When arguments are supplied, an alias is defined for each name whose value is given.	alias ← check all alias alias ls='ls -la --color=auto' alias grep='grep --color'
unalias	Remove each name from the list of defined aliases. If -a is supplied, all alias definitions are removed.	unalias COMMAND
ntpdate	set the date and time via NTP	ntpdate -b -u IP -b : Force the time (step mode) -u : If you are running ntpd, “-u” must be added.
chronyc	command-line interface for chronyd	chronyc sources chronyc sources -v **chronyc sourcestats** ← check offset chrony makestep ← Correct the time
ntpq	standard NTP query program	ntpq -p -p : Print a list of the peers known to the server watch -n 1 ntpq -p
hwclock	query and set the hardware clock (RTC)	hwclock (-r) ← Read the Hardware Clock and print the time on standard output. hwclock -w ← Set the Hardware Clock to the current System Time. hwclock -s ← Set the System Time from the Hardware Clock.
man	an interface to the on-line reference manuals	man COMMAND
whatis	display manual page descriptions	whatis KEYWORD whatis cat whatis vi
history	GNU History Library	history |less history 5 ← lists only the last 5 lines. HISTSIZE=1000 HISTTIMEFORMAT=“%Y/%m/%d %H:%M:%S ”

which	locate a command	which ls which -a bash ← -a : print all matching pathnames of each argument
time	time a simple command or give resource usage	time sleep 5
strace	trace system calls and signals	strace -t php test.php strace -t -o test.txt php test.php -t : each line of the trace with the time of day.
ltrace	A library call tracer	lltrace -o test.txt wget http://example.com/ ltrace -p PID ltrace -p 3365
script	make typescript of terminal session	script -afq $LOG

File Commands

ls	list directory contents	ls -ltrh ← -r : reverse order while sorting -h : with -l, print sizes in human readable format ls -ltrh |less
cp	copy files and directories	cp -p SRC DES cp -pi /etc/hosts{,.`date '+%Y%m%d'`} cp -pr SRC/ DES/ ← -r,-R : copy directories recursively cp -f SRC DES ← -f, --force
mv	move (rename) files	mv file1 file2 mv dir1 dir2 mv file1 file2 file3 DIR
rename	renames multiple files	rename .htm .html *.htm ← frm .htm to .html rename "" test *.txt ← add test rename test "" *.txt ← delete test
rm	remove files or directories	rm -rf TARGET ← -r,-R : remove directories
touch	change file timestamps	touch file1 touch -d “2017/10/20 13:00:00” file1
ln	make links between files	ln -s SRC DES
unlink		unlink DES
wc	print newline, word, and byte counts for each file	wc -l ← -l, --lines = print the line counts
tree	list contents of directories in a tree-like format	tree -Dpuga /etc
col	filter reverse line feeds from input	man ifconfig | col -bfx > test.txt

Directory Commands

pwd	print name of current/working directory	pwd
cd	Change the current directory	cd ← go to home directory cd ~/ ← go to home directory cd .. ← go to parent directory
pushd	Adds a directory to the top of the directory stack	pushd /var/log pushd `pwd` pushd +2 ← check pushd directory with dirs -v and go to No.2 pushd +3 ← check pushd directory with dirs -v and go to No.3
popd	Removes entries from the directory stack.	popd
dirs	displays the list of currently remembered directories.	dirs -v
mkdir	make directories	mkdir -p /tmp/test1/test2/ ← make parent directories as needed mkdir -m 700 /home/user01/.ssh
rmdir	remove empty directories If you want to delete directory, you must use “rm -r DIR”.	rmdir DIR

Commands to Access File Contents

more	file perusal filter for crt viewing	
less	opposite of more	crontab -l |less
view	Start in read-only mode.	
cat	concatenate files and print on the standard output	cat /dev/null > access.log
tail	output the last part of files	tail -n 50 aaa.txt ← output the last N lines tail -f /var/log/messsages
tailf	follow the growth of a log file	tailf /var/log/messages tailf -n 50 aaa.txt
head	output the first part of files	head -n 100 aaa.txt ← -n , --lines <wrap hi>head * |more</wrap> ← View the beginning of the file in the directory.
diff	compare files line by line	diff --suppress-common-lines --side-by-side File1 File2 diff /etc/test{,.`date '+%Y%m%d'`} diff -r dir1 dir2 ← When comparing directories, recursively compare
sdiff	side-by-side merge of file differences	sdiff -s File1 File2 ← -s : Do not print common lines. sdiff -s -w 200 File1 File2
colordiff		
vimdiff		vimdiff file1 file2 vim -d file1 file2

Searching

grep	print lines matching a pattern	grep WORD FILE |less grep -Ev "^#|^$" xxx.txt grep -Ev "^$|^#|^\s*#" file.txt grep . ifcfg-eth* ← check filename and contents grep "" ifcfg-eth* ← check filename and contents grep -r PATTERN --include="*.txt" DIRECTORY ← -r : recursive
egrep	egrep is the same as grep -E	egrep "aaa|bbb" file
find , xargs	search for files in a directory hierarchy	find . -name "*txt*" find /dir -type f -name "*.log*" -mtime +7 -exec rm -rf {} \; ← “-mtime +7” is 7 days ago

File Compression

tar	The GNU version of the tar archiving utility tar warn the order of target and destination.	tar zcvf test.tar.gz Dir ← Create, Verbose, File tar ztvf test.tar.gz ← Test, Verbose, File tar zxvf test.tar.gz ← eXtract, Verbose, File tar jcvf test.tar.bz2 DIR ← Create, Verbose, File tar jxvf test.tar.bz2 tar zcvf /tmp/user01.tar.gz user01 tar zxvf user01.tar.gz -C /home
gzip **gunzip**	compress or expand files	gzip file1 gunzip file1.gz gzip access_log.2011-[0][5-8]*.txt ←wild card
compress **uncompress**	package and compress (archive) files	compress file1 uncompress file1.Z
bzip2 **bunzip2** **bz2cat**	a block-sorting file compressor	bzip2 file1 bunzip2 file1.gz2 bz2cat file1.gz2
zip **unzip**	package and compress (archive) files	zip file.zip file1 file2 zip -l file.zip ← -l = list for check unzip file.zip unzip -t file.zip ← -t = test
lha		lha a file.lzh file1 file2 lha t file.lzh lha x file.lzh
gzcat		gzcat file.gz gzcat file.Z
zcat		zcat file.Z
zless	file perusal filter for crt viewing of compressed text	zless file.gz
zgrep	search possibly compressed files for a regular expression	zgrep PATTERN file.gz
zegrep	search possibly compressed files for a regular expression	zegrep “new” test.txt.gz

zdiff	compare compressed files	zdiff file1.gz file2.gz

Character

lv	a Powerful Multilingual File Viewer / Grep	
qkc		
nkf	Network Kanji Filter	[to utf8] nkf -w -Lu --overwrite test.txt [to euc] nkf -e -Lu --overwrite test.txt [to sjis] nkf -s -Lw --overwrite test.txt find . -type f -name "*sh*" -print0 | xargs -0 nkf --overwrite -w -Lu
iconv	Convert encoding of given files from one encoding to another	iconv -f utf-8 -t sjis test.utf8 > test.sjis

User

useradd	create a new user or update default new user information	**Adminuser on RHEL** useradd -G wheel USER1 **Adminiuser on Ubuntu** useradd -m -s /bin/bash -G sudo USER2 useradd -u UID -g GROUP -G GROUP1,GROUP2 -s /bin/bash -d HOME_DIR LOGIN useradd -D ← check Default Parameter
adduser	add a user to the system	
whoami	print effective userid	whoami
w	Show who is logged on and what they are doing.	w
who	show who is logged on	who who --all
userdel	delete a user account and related files	userdel -r USER ← (-r, --remove : Files in the user's home directory will be removed)
vipw	edit the password, group, shadow-password or shadow-group file	vipw ← edit /etc/passwd vipw -s ← edit /etc/shadow
passwd	change user password	passwd passwd user1 echo "password01" | passwd --stdin user01 passwd -S user1 ← check about the status of the password passwd -l user01 ← Lock the user passwd -u user01 ← Unlock passwd -d user01 ← delete password
chpasswd	update passwords in batch mode	**echo user01:password | chpasswd** echo 'USER:PASS' > tmp.txt ; chpasswd < tmp.txt ; rm -f tmp.txt
mkpasswd		

chage	change user password expiry information	chage -l USER ← check chage -M 90 USER ← the password expires day set 90days change -d 0 USER ← force a user to change their password at next login
usermod	modify a user account	usermod -g GROUP USER usermod -g GROUP -G SUBGROUP USER usermod -G SUBGROUP USER usermod -aG SUBGROUP USER ← add Group usermod -G SUBGROUP1,SUBGROUP2 USER usermod -G "" USER usermod -l USER_NAME_NEW USERNAME_OLD ← change username usermod -d HOME_DIR_NEW USER_NAME ← change home directory usermod -u UID USER ← change UID
gpasswd		gpasswd -a USER sudo ← add USER to GROUP gpasswd -r USER sudo ← remove USER from GROUP
chsh	change login shell	chsh -l ← = cat /etc/shells chsh -s /bin/bash ← changing shell chsh -s /bin/bash user01
getent	get entries from Name Service Switch libraries	getent passwd ← you can check LDAP Users getent group getent shadow
pam_tally2	The login counter (tallying) module	pam_tally2 -u USER ← check pam_tally2 -u USER --reset ← reset

Group

groups	print the groups a user is in	groups groups USERNAME
groupadd	create a new group	groupadd -g GID GROUP groupadd -g 1100 dev
addgroup	add group to the system	addgroup [--gid ID] group
groupdel	delete a group	groupdel GROUP
groupmod	change USER's GID	groupmod -g GID GROUP groupmod -g 1501 testgroup1 find / -gid OLDGID -print ← Check the OLD GID **Reference** usermod -aG SUBGROUP USER ← add Group
chgrp	change the Group of the file	chgrp -R GROUP FILE
vigr	edit the password, group, shadow-password or shadow-group file	

File Permissions

chmod	change file mode bits	chmod 777 TARGET chmod u+s PROGRAM ← add SSUID (Set User ID)
chown	change file owner and group	chown USER FILE chown USER:GROUP FILE chown -R USER:GROUP DIR ← -R : operate on files and directories recursively

Etc

finger	user information lookup program	finger finger user01 finger -l user01
su	change user ID or become superuser	su - ← change root user sudo su - USER -s /bin/bash su - user1 -c "ssh user1@192.168.0.xx ls -lh /tmp" >> aaa.txt
sudo	execute a command as another user	sudo su - sudo -i sudo -u USER COMMAND sudo sh -c 'echo "test" >> /tmp/test.txt'
id	print real and effective user and group IDs	id USERNAME
last	show listing of last logged in users	last last -5 ← last 5 logged in users last USER
lastlog	reports the most recent login of all users or of a given user	lastlog
umask	set file mode creation mask	umask ← check umask 022 ← default 666-022=644(rw-r-r-) umask 002 ← 666-002=664(rw-rw-r-) umask 000 ← 666-000=666(rw-rw-rw-)

Network

ip	show / manipulate routing, devices, policy routing and tunnels	ip a ← print ip address ip addr ← print ip address ip r ← Show IP Routing ip route ← Show IP Routing
ss	another utility to investigate sockets	ss -lt ← List all Listening TCP Connections ss -ua ← List all UDP Connections ss -ltp ← Process Name with Listening TCP ss -anu
ifconfig	configure a network interface	ifconfig ← check ip ifconfig -a ← -a : display all interfaces ifconfig eth0 up ifconfig eth0 down
ifdown	take a network interface down	ifdown eth0 ifdown eth0 && ifup eth0
ifup	bring a network interface up	ifup eth0 ifdown eth0 && ifup eth0
route	show / manipulate the IP routing table	route ← show the IP routing table route -n ← show the IP routing table route add -net 192.168.10.0 netmask 255.255.255.0 gw 10.50.0.1 route add -host 192.168.0.100 gw 192.168.1.100 route del -net 192.168.10.0 netmask 255.255.255.0
ethtool	Display or change ethernet card settings	ethtool eth0 ethtool -s eth0 speed 100 duplex full autoneg off ethtool -s eth0 autoneg on
mii-tool	view, manipulate media-independent interface status	mii-tool eth0 mii-tool -vv eth0
arp	manipulate the system ARP cache	arp -n arp -an ← (-a : Shows the entries of the specified

		hosts.) arp -d 192.168.xx.xx ← delete arp
nmcli	line tool for controlling NetworkManager	nmcli d #d=device nmcli d show ← defail nmcli c #c=con=connection nmcli c down eno1 nmcli c up eno1
nmtui		
tcpdump	dump traffic on a network	tcpdump -n port 80 -i any tcpdump -n not arp and not port 123 and not port 22 tcpdump host 192.168.0.10 -n -w /tmp/20110615.pcap tcpdump -r /tmp/20110615.pcap ← -r : Read packets from file tcpdump -D # NIC LIST

Check Network Connection

ping	send ICMP ECHO_REQUEST to network hosts	ping -c 5 -s 1500 192.168.0.1 ping -i 0.5 192.168.0.1 # -i : interval
traceroute	print the route packets trace to network host	traceroute -n 192.168.0.10 traceroute -T -p 80 192.168.0.10 ← (-T = TCP) traceroute -U -p 53 192.168.0.10 ← DNS (-U = UDP)
tracepath	traces path to a network host discovering MTU along this path	tracepath -n 192.168.0.10 ← UDP *tracepath don't use TCP.
mtr	a network diagnostic tool	mtr --tcp -P 80 xxxxxx mtr --udp -P 53 xxxxxx mtr -rwb xx.xx.xx.xx -c 10 -T -P 443
nmap	Network exploration tool and security / port scanner	nmap google.com ← Check TCP nmap -sT -sU -Pn x.x.x.x ← check TPC and UDP nmap -Pn -sT -p 22 xx.xx.xx.xx ← check Firewall nmap -Pn -sT -p 22 xx.xx.xx.xx/24 ← check Firewall nmap -sU -p 161 xxxxxx ← Check UDP nmap -Pn -p 22 HOST nmap -p 443 www.google.com
nc **netcat**	Concatenate and redirect sockets	nc 192.168.0.10 80 22 ← check TCP nc -u 192.168.0.100 53 ← check UDP nc -vz 192.168.0.10 1-1023 ← portscan nc -v x.x.x.x 22 < /dev/null > /dev/null 2>&1 ‖ echo NG
nping		nping --tcp -p PORT HOST nping -c 1 --tcp -p PORT HOST
httping	measure the latency and throughput of a webserver	
http_ping		
hping , **hping3**		

fping		fping -g 192.168.0.0/24

DNS

dig	DNS lookup utility	dig -h ←help dig [@global-server] [domain] [q-type] dig @8.8.8.8 google.com any dig @8.8.8.8 -x 74.125.235.101 dig google.com mx dig +trace google.com dig +trace -x 173.252.120.6
nslookup	query Internet name servers interactively	nslookup -type=any google.com 8.8.8.8 nslookup google.com 8.8.8.8 nslookup -type=txt google.com
host	DNS lookup utility	host ← help host [-t type] [server] host gmail.com host x.x.x.x host -t any google.com 8.8.8.8 host -t mx gmail.com 8.8.8.8 host -t soa gmail.com -t = specifies the query type
whois	client for the whois service	whois google.com
nscd	name service cache daemon	nscd --help nscd -i hosts ← chache clear nscd -g ← Print current configuration statistics

Connection

telnet	user interface to the TELNET protocol	telnet IP PORT
ssh popular	OpenSSH SSH client (remote login program)	ssh USER@IP ssh xx.xx.xx.xx "hostname; netstat -rn |grep 10.110.0" ssh xx.xx.xx.xx sudo /sbin/reboot ssh -o "StrictHostKeyChecking no" xx.xx.xx.xx
scp	secure copy (remote file copy program) the link file copyed as the real file.	scp test.tar.gz user1@192.168.0.10:/tmp scp -rp /home/user1 user1@192.168.0.10:/home scp -rp /tmp/test1/ user1@192.168.0.10:/tmp/test2/
rsync popular	a fast, versatile, remote (and local) file-copying tool the link file copyed as the link file. rsync -avzh --stats --delete /home/user1/ /tmp/user1.bk/ ← rsync "/" is very important. rsync -e ssh -avzh --stats --delete /home/user1/ user2@192.168.0.2:/home/backup/server1/home/user1/ rsync -e ssh -avzh --stats –-bwlimit=1250 FILE user@192.168.0.2:/DIR/ # 1Mbps = 125KBps	
ssh-keygen	authentication key generation, management and conversion	ssh-keygen -t rsa ← generate rsa key pair ssh-keygen -t rsa -b 4096 -C "" -N "" -f id_rsa ssh-keygen -R HOST ← Removes all keys belonging to hostname from a known_hosts file.
sshpass		sshpass -p "XXXXXX" ssh x.x.x.x
ssh-copy-id	use locally available keys to authorise logins on a remote machine ssh-copy-id USER@x.x.x.x ssh-copy-id -i xxxxx USER@x.x.x.x **Other method** cat ~/.ssh/id_rsa.pub | ssh USER@x.x.x.x "mkdir -p ~/.ssh; cat >> ~/.ssh/authorized_keys"	

HTTP

curl popular	transfer a URL	curl -O http://example.com/images/test.jpg curl -I http://www.example.com/ ← Only Header curl -i http://www.example.com/ ← Header and Body curl --proxy http://proxy.example.com:8080 http://example.com/
wget	The non-interactive network downloader.	wget http://google.com/ wget -e http_proxy=xx.xx.xx.xx:8080 http://example.com/ wget -e https_proxy=xx.xx.xx.xx:8080 https://example.com/ wget -S --spider http://example.com/ ← Only Header

FTP

ftp	ARPANET file transfer program	
lftp	Sophisticated file transfer program	

SNMP

snmpwalk	retrieve a subtree of management values using SNMP GETNEXT requests	snmpwalk -v 2c -c public localhost sysname snmpwalk -v 2c -c public localhost .1.3.6.1.2.1
snmpget	communicates with a network entity using SNMP GET requests	snmpget -v 2c 192.168.0.10 -c public .1.3.6.1.4.1.2021.11.50.0
snmptranslate	translate MIB OID names between numeric and textual forms	snmptranslate -Tp | less
snmpnetstat	display networking status and configuration information from a network entity via SNMP	snmpnetstat -v 2c -c public -Can localhost snmpnetstat -v 2c -c public -Ci localhost snmpnetstat -v 2c -c public -Cs localhost

Shell

date	print or set the system date and time	date --date '10day ago' +"%Y%m%d" → 20061030 date +"%Y%m%d" → 20061030 date +"%H:%M" → 12:47 cp -p FILE FILE.`date +%Y%m%d` cp -p FILE FILE.`date -d '1day ago' +%Y%m%d`
tr	translate or delete characters	
cut	remove sections from each line of files	echo abcdef |cut -c 3- echo abcdef |cut -c 2-4
sort	sort lines of text files	sort -t: +1 -n sample.txt
uniq	report or omit repeated lines	cat access_log.1 | awk {'print $4'} |awk -F: {'print $1$2$3'} | sort |uniq -c
logger	a shell command interface to the syslog(3) system log module	logger "test test"
tee	read from standard input and write to standard output and files	xxxx.sh | tee xxxx.log xxxx.sh | tee -a xxxx.log xxx.sh 2>&1 | tee xxxx.log ← Save standard output and standard error output to file
basename	strip directory and suffix from filenames	SHELLNAME=`/usr/bin/basename $0` SHELLNAME=`/usr/bin/basename $0 .sh`
dirname	strip last component from file name	DIR=`dirname ${0}`
paste	merge lines of files	paste -d, test1.txt test2.txt
awk		echo "1 2 3 4 5" | awk '{ print $1 "," $3 }' echo "1 2 : 3 4 : 5" | awk -F: '{ print $2 }'
sed		sed -e 's/xxx/XXX/g' input.txt > output.txt sed -i "s/IPADDR=192.168.0.10/IPADDR=192.168.0.11/g" ifcfg-eth0

mail **mailx**	send and receive Internet mail echo test | mail -s "test" -S "smtp=smtp://xx.xx.xx.xx:25" test@example.com cat test.txt | mail -s "test" -S "smtp=smtp://xx.xx.xx.xx:25" test@example.com echo "`hostname` `date`" | mail -s "attach test" -a tmp.txt -S smtp=smtp://x.x.xx:25 -r from@example.com to@test.com	
while		while : ; do uptime ; sleep 1 ; done while : ; do uptime >> /tmp/tmp.txt ; sleep 1 ; done while : ; do ps aux |grep httpd |wc -l ; sleep 1 ; done
for		for i in 127.0.0.1 192.168.10.1; do ping -c 2 $i; done
sleep		sleep 1
usleep	sleep some number of microseconds	usleep 1000000 ← 1,000,000 = 1sec usleep 100000 ← 100,000 = 0.1sec usleep 10000 ← 10,000 = 0.01sec

Hardware

dmesg	print or control the kernel ring buffer	dmesg dmesg -H -P -T (-H = --human)(-P = --nopager)(-T = --ctime) The dmesg time is incorrect. Timestamps are slowed down because the time the kernel was asleep is lost.
lsusb	List USB devices	lsusb
lspci	list all PCI devices	lspci
nproc	print the number of processing units available	nproc grep -c processor /proc/cpuinfo getconf _NPROCESSORS_ONLN
inxi	Display info about all hardware	inxi -Fxz
hwinfo	Display info about all hardware	hwinfo hwinfo --short
lshw	Display info about all hardware “lshw” stands for “List Hardware”.	lshw -short lshw -C cpu <- Display all CPU info lshw -short -C memory lshw -short -C disk lshw -C network
lscpu	Display all CPU info	lscpu
dmidecode		dmidecode -t memory | grep -i size dmidecode -t memory | grep -i max <- Show maximum memory for the hardware dmidecode -t bios <- Display UEFI/BIOS info

Module

lsmod	show the status of modules in the Linux Kernel	lsmod
modinfo	show information about a Linux Kernel module	modinfo MODULENAME modinfo bnx2
insmod	insert a module into the Linux Kernel	
rmmod	remove a module from the Linux Kernel	
modprobe	add and remove modules from the Linux Kernel	

HDD

du	estimate file space usage	du -sh * du -sh dir/ du -h --max-depth=1
fuser	identify processes using files or sockets	fuser -mv /mnt/test ← check fuser -mvk /mnt/test ←(-k : Kill processes)
chroot	run command or interactive shell with special root directory	
hdparm	get/set hard disk parameters	
dumpe2fs	dump ext2/ext3/ext4 filesystem information	
badblocks	search a device for bad blocks	

Partition

df	report file system disk space usage	df -h ← (-h : print sizes in human readable format) df -BG ← Bigabyte Unite df -BM ← Megabyte Unite
sfdisk	partition table manipulator for Linux	sfdisk -l ←(-l : List the partitions of a device.)
fdisk	manipulate disk partition table	fdisk -l ← (-l : List the partition tables) fdisk -l /dev/sdb fdisk -l -o +UUID
gdisk	Interactive GUID partition table (GPT) manipulator	
parted	a partition manipulation program	parted -l ← check partitions parted /dev/mapper/mpath0
lsblk	list block devices	lsblk
e2label	Change the label on an ext2/ext3/ext4 filesystem	

Swap

mkswap	set up a Linux swap area	
swapon	enable devices and files for paging and swapping	swapon -s ← Check swapon -a swapon /dev/xvda3
swapoff	disable devices and files for paging and swapping	swapoff -a

File Systems

mkfs	build a Linux filesystem #you must umount the device before mkfs.	mkfs -t xfs /dev/sdb1 mkfs -t ext3 /dev/sdb1 mkfs -t ext4 /dev/sdb1
mkfs.xfs **mkfs.ext4** **mkfs.ext3**	#you must umount the device before mkfs.	mkfs.ext4 /dev/sdb1 mkfs.ext3 /dev/sdb1
mkfs2fs	create an ext2/ext3/ext4 filesyste #you must umount the device before mkfs.	mke2fs /dev/sdb1 ← ext2 mke2fs -j /dev/sdb1 ← ext3
xfs_info		xfs_info /dev/sda1
tune2fs	adjust tunable filesystem parameters on ext2/ext3/ext4 filesystems	tune2fs -l /dev/mapper/mpath0 ← -l : List the contents of the filesystem superblock. tune2fs -l /dev/mapper/mpath0 |egrep "count|interval" tune2fs -i 0 -c 0 /dev/mapper/mpath0 ← -i : interval, -c : mount count
fsck	check and repair a Linux filesystem you must umount the device before fsck. for example single usermode and umount. 'shutdown -r -F now' is force fsck after reboot.	fsck -p /dev/sda1 ← -p : Automatically repair (“preen”) the file system.
fsck.ext4	check and repair a Linux filesystem	
e2fsck	check a Linux ext2/ext3/ext4 file system	
resize2fs	ext2/ext3/ext4 file system resizer	resize2fs /dev/testvg/lvol0

Data

dd	convert and copy a file	dd if=/dev/zero of=test_10M bs=1M count=10 dd if=/dev/zero of=test_100M bs=1M count=100 dd if=/dev/zero of=test_1G bs=1M count=1000 dd if=/dev/zero of=temp.bin bs=1 count=0 seek=1G ← sparse file
sync	flush file system buffers	
shred	overwrite a file to hide its contents, and optionally delete it	

mount

mount	mount a filesystem	mount mount | column -t mount /mnt/test /dev/sda1 mount -o remount /dev/sda1 mount -t cifs //xx.xx.xx.xx/test /mnt/test -o username=guest,password=
umount	unmount file systems	umount /mnt/test umount -f /mnt/test (-f : Force unmount(in case of an unreachable NFS system)) umount -l /mnt/test (-l : Lazy unmount.Detach the filesystem from the filesystem hierarchy now)

Performance

top	display Linux processes	top -b -n 4 -d 5 ← interval 5sec , 4 times
sar	Collect, report, or save system activity information.	sar -f /var/log/sa/sa16 sar (cpu,io) sar -r (memory) sar -q (Loadaverage)
vmstat LIKE	Report virtual memory statistics	vmstat 1 ← interval 1sec (cpu, io, memory, swap) vmstat 1 5 ← interval 1sec, 5 times (cpu, io, memory, swap)
iostat	Report Central Processing Unit (CPU) statistics and input/output statistics for devices and partitions.	iostat -xtk 1 (cpu, io) ← interval 1sec
mpstat	Report processors related statistics.	mpstat -P ALL
uptime	Tell how long the system has been running.	while : ; do uptime ; sleep 1 ; done while : ; do uptime » /tmp/tmp.txt ; sleep 1 ; done
w	Show who is logged on and what they are doing.	
free	Display amount of free and used memory in the system	free -m ← show output in MB
netstat	Print network connections, routing tables, interface statistics, masquerade connections, and multicast memberships	**netstat -anp** (-a : Show both listening and non-listening sockets.) netstat -rn (-r : Display the kernel routing tables.)
iotop	simple top-like I/O monitor	iotop -b -n 4 -d 15 ← interval 15sec , 4 times
dstat LIKE	versatile tool for generating system resource statistics	dstat -taf

Software

make	GNU make utility to maintain groups of programs	
patch	apply a diff file to an original	patch -p1 -N < ../xxx.patch
ldd	print shared library dependencies	ldd BINARY
yum popular	an interactive, rpm based, package manager	yum repolist ← check enabled repository yum search STRINGS yum info PACKAGE ← check rpm version etc yum install PACKAGE yum --disablerepo=* --enablerepo=test-repo repolist
rpm	RPM Package Manager	rpm -ivh PACKAGE.rpm ← install rpm -e PACAGE.rpm ← uninstall rpm -qa --last
apt	apt provides a high-level commandline interface for the package management system.	apt list --installed ← check installed package
dpkg		dpkg -l ← check installed package
alien		alien -d package-x.x.x.rpm alien -r package-x.x.x.deb
update-alternatives		update-alternatives --config mta
rhn_register		rhn_register --nox --proxy=http://192.168.0.10:9999

X Window System

startx	initialize an X session	startx
xhost	server access control program for X	xhost + ← Access is granted to everyone
xauth	X authority file utility	