# ?????

# Home ??

???? Home ??

cd /home

cp -a user1/ user1\_new/

cd /home

cp -a user1/.[^.]\* user1\_new/

#### ??????? Home ??

cp -r /etc/skel /home/user1 chown -R user1.group1 /home/user1 chmod 0700 /home/user1

??? /home ????????

•• Answer: ?(?)??????? SELinux ???????? SELinux ????????

# ls -ld /home

drwxr-xr-x. 2 root root 4096 Mar 28 2017 /home

# ls -Zd /home

drwxr-xr-x. root root system\_u:object\_r:home\_root\_t:s0 /home

????? Home ??

# ??????

#### 

groupadd team mkdir /worktmp/share\_test chgrp team /worktmp/share\_test chmod 2775 /worktmp/share\_test usermod -aG team i04181

# ?? PATH

PATH ?????? bin ??

~/.bashrc :

```
# Custom PATH
case :$PATH: in
 *:/home/$USER/bin:*) ;;
*) PATH=/home/$USER/bin:$PATH ;;
```

esac

[ -z "\$(sed -n '\@/usr/local/bin@p' <<< \$PATH)" ] && PATH=/usr/local/bin:\$PATH

# **Custom Prompt**

# Kali-like Custom PROMPT

Solution: \_\_\_git\_ps1 command not found

```
curl -o ~/.git-prompt.sh https://raw.githubusercontent.com/git/git/master/contrib/completion/git-prompt.sh echo 'source ~/.git-prompt.sh' >> ~/.bashrc
```

# ?? Zombie ??(defunct)

One may deal with zombie processes in any one of the following ways:

- Fix the parent process to make it execute wait(2) on child process exit
- Kill the parent process of the zombie
- Reboot system
- Ignore it

?? zombie processes

```
ps aux |grep "defunct"
ps aux |grep Z
# How many Zombie process running on your server
ps aux | awk {'print $8'}|grep -c Z
# List the PID of Zombie
ps aux | awk '{ print $8 " " $2 }' | grep -w Z
```

#### Kill zombie process

```
# find the parent process list
pstree -paul
```

### RHEL Documents:

kill -9 <PARENT-PID>

- What\_is\_a\_zombie\_(defunct)\_process.pdf
- <u>How\_to\_kill\_Zombie\_Defunct\_process.pdf</u>

### ?? & Auditing ??

# Parse /var/log/secure

grep "authentication failure" /var/log/secure | awk '{ print \$13 }' | cut -b7- | sort | uniq -c

# Login failed attempts lastb -F lastb -F <username>

#### Check Linux Login History

#!/bin/bash

#Filename: intruder\_detect.sh

#Description: Check Linux Login History AUTHLOG=/var/log/secure

```
if [[ -n $1 ]];
then
AUTHLOG=$1
echo Using Log file : $AUTHLOG
fi
```

# Collect the failed login attempts
FAILED\_LOG=/tmp/failed.\$\$.log
egrep "Failed pass" \$AUTHLOG > \$FAILED\_LOG

# Collect the successful login attempts
SUCCESS\_LOG=/tmp/success.\$\$.log
egrep "Accepted password|Accepted publickey|keyboard-interactive" \$AUTHLOG > \$SUCCESS\_LOG

# extract the users who failed
failed\_users=\$(cat \$FAILED\_LOG | awk '{ print \$(NF-5) }' | sort | uniq)

# extract the users who successfully logged in success\_users=\$(cat \$SUCCESS\_LOG | awk '{ print \$(NF-5) }' | sort | uniq) # extract the IP Addresses of successful and failed login attempts failed\_ip\_list="\$(egrep -o "[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+" \$FAILED\_LOG | sort | uniq)" success ip list="\$(egrep -o "[0-9]+\.[0-9]+\.[0-9]+\.[0-9]+" \$SUCCESS LOG | sort | uniq)"

# Print the heading
printf "%-10s|%-10s|%-10s|%-15s|%s\n" "Status" "User" "Attempts" "IP address" "Host" "Time range"

# Loop through IPs and Users who failed.

```
for ip in $failed_ip_list;
do
for user in $failed_users;
   do
   # Count failed login attempts by this user from this IP
   attempts=`grep $ip $FAILED_LOG | grep " $user " | wc -l`
   if [ $attempts -ne 0 ]
```

then

```
first_time=`grep $ip $FAILED_LOG | grep " $user " | head -1 | cut -c-16`
   time="$first time"
   if [ $attempts -gt 1 ]
   then
    last_time=`grep $ip $FAILED_LOG | grep " $user " | tail -1 | cut -c-16`
    time="$first time -> $last time"
   fi
   HOST=$(host $ip 8.8.8.8 | tail -1 | awk '{ print $NF }')
   printf "%-10s|%-10s|%-10s|%-15s|%-s\n" "Failed" "$user" "$attempts" "$ip" "$HOST" "$time";
  fi
 done
done
for ip in $success_ip_list;
do
 for user in $success_users;
  do
  # Count successful login attempts by this user from this IP
  attempts=`grep $ip $SUCCESS_LOG | grep " $user " | wc -l`
  if [ $attempts -ne 0 ]
  then
   first_time=`grep $ip $SUCCESS_LOG | grep " $user " | head -1 | cut -c-16`
   time="$first_time"
   if [ $attempts -gt 1 ]
   then
    last_time=`grep $ip $SUCCESS_LOG | grep " $user " | tail -1 | cut -c-16`
    time="$first_time -> $last_time"
   fi
   HOST=$(host $ip 8.8.8.8 | tail -1 | awk '{ print $NF }')
   printf "%-10s|%-10s|%-10s|%-15s|%-15s|%-s\n" "Success" "$user" "$attempts" "$ip" "$HOST" "$time";
  fi
 done
done
rm -f $FAILED_LOG
rm -f $SUCCESS LOG
```

System Audit

# Install Audit
yum install audit
systemctl start auditd
# Authentication Report
# To get authentication report for all the attempts which was made
aureport -au -i   more
# To get authentication report for all the success attempts which was made
aureport -au -isuccess   more
# To get authentication report for all the failed attempts which was made
aureport -au -ifailed   more
# To get success login information
aureport -Isuccess   more
# To get failed login information
aureport -lfailed   more
# To get success login summary report for all the success attempts which was made
aureport -Isuccesssummary -i   more

#### Check if a RHEL system is vulnerable to a specific CVE

# rpm -q --changelog [package-name] | grep [CVE-NUMBER] rpm -q --changelog openssl | grep CVE-2021-3450 rpm -q --changelog openssl | grep CVE rpm -q --changelog openssl | grep CVE-2021

# Using yum command yum install yum-plugin-security yum update yum yum updateinfo info --cve CVE-2021-3445

#### Auditd

### AUDITD RECOMMENDED CONFIGURATION ON REDHAT OR CENTOS LINUX FOR SYSTEM AUDITING

- Linux ?? pam\_tty\_audit ?? SSH ?????????
- Adultd?Linux ???????????????
- The <u>psacct</u> package contains several utilities for monitoring process activities, including ac, lastcomm, accton and sa.

Auditing tool for UNIX/Linux like - Lynis

- https://cisofy.com/
- How to Do Security Auditing of Linux System Using Lynis Tool

### rsh

rsh server

# install on CentOS 6/7
yum install rsh-server
# Startup the service on CentOS 6
chkconfig rsh on
chkconfig rlogin on
service xinetd reload
# Startup the service on CentOS 7
systemctl start rsh.socket
systemctl start rexec.socket
systemctl enable rsh.socket
systemctl enable rlogin.socket

systemctl enable rexec.socket

### strace ????

# Trace the command strace df -h

# Trace the process ID strace -p 33259

# Get Summary of Linux Process strace -c -p 3569

# Print Instruction Pointer During System Call
strace -i df -h

# Show Time of Day For Each Trace Output Line strace -t df -h

# Print Command Time Spent in System Calls strace -T df -h

```
# Trace Only Specific System Calls
strace -e trace=write df -h
strace -p 3569 -e poll
```

# ?? suspend, hibernation

# disable the following systemd targets
sudo systemctl mask sleep.target suspend.target hibernate.target hybrid-sleep.target

sudo systemctl restart systemd-logind.service

# Then reboot the system and log in again

# Verify if the changes have been effected using the command

sudo systemctl status sleep.target suspend.target hibernate.target hybrid-sleep.target

# To re-enable the suspend and hibernation modes, run the command

sudo systemctl unmask sleep.target suspend.target hibernate.target hybrid-sleep.target

To prevent the system from going into suspend state upon closing the lid, edit the /etc/systemd/logind.conf file.

[Login] HandleLidSwitch=ignore HandleLidSwitchDocked=ignore

### ???????

#### lsblk

# Check the disks
lsblk
nvme0n1 259:0 0 465.8G 0 disk

-nvme0n1p1 259:1 0 512M 0 part /boot/efi
-nvme0n1p2 259:2 0 465.3G 0 part /
nvme1n1 259:3 0 953.9G 0 disk /media/alang/AlangsData

# Check the disks for the details lsblk --fs

NAME	FSTYPE LA	BEL UUID	MOUNTPOI	NT	
sda					
—sda1	xfs 7	a72d0ab-c234-4a	d6-82dd-aa53edff7c78	/boot	
└─sda2	LVM2_mem	VqfMLI-x1MU	-Ui0R-w2UI-3Qaq-na31-Fe	DNKfL	
⊢rootvg-root	xfs	18817b75-3bd9-	4ea7-b1b8-1d71b790ac4	5 /	
⊢rootvg-swa	p swap	efc1e891-3ad	9-4f18-8f03-a0d70f26c18	1 [SWAP]	
└_rootvg-work	<tmp td="" xfs<=""><td>2be7fb38-c1c</td><td>f-4ce0-b4ee-11975ef745</td><td>o2 /worktmp</td></tmp>	2be7fb38-c1c	f-4ce0-b4ee-11975ef745	o2 /worktmp	
sdb L'	VM2_mem	kqHzl1-y8GI-SE	Ekr-jhQn-BYAy-x2Tg-e1jdF	3	
−dbvg-db2_ho	ome xfs	f333bfb2-7a8	32-4bbe-aa20-325efc2feb	f8 /db2_home	
−dbvg-db2_vo	ol xfs	5702a9cd-a70e	e-4f48-9c5d-c29858dbaca	a2 /db2_vol	
└─dbvg-dbtmp	xfs	9dcd5abd-ae6l	o-428b-b326-cf0c56d534a	al /dbtmp	
sr0					
# List UUID of o	disk				
Isblk -I -o NAME	E,FSTYPE,MO	UNTPOINT,UUID			
NAME FSTYPE N	MOUNTPOIN	T UUID			
sda					
sdal ext4 /bo	ot f830a3	3fa-1f94-42f4-9dc	a-5b5c077eab66		
sda2 ext4 /	dcbdf18	c-2fb4-426c-9dac	-d13a45b7ebba		
sda3 swap [S\	NAP] 6f40	)f01b-e9ed-4092-	9c65-1445d92ec9da		
sda4 ext4	6df9a3a	6-052e-41f3-b15a	a-cb258db0267f		
OVM_SYS_REPO	OVM_SYS_REPO_PART_3600508b1001cbe65c99583659f085b36 (dm-0)				
ext4 6df9a3a6-052e-41f3-b15a-cb258db0267f					
sr0					
# Check the file	esystem for	the specified disk			
lsblkfs /dev/s	db				
NAME FS	STYPE LABE	EL UUID	MOUNTPOINT	-	
sdb LVN	42_mem	kqHzl1-y8Gl-SEk	r-jhQn-BYAy-x2Tg-e1jdF3		
├-dbvg-db2_ho	me xfs	f333bfb2-7a82	-4bbe-aa20-325efc2febf8	/db2_home	
−dbvg-db2_vo	l xfs	5702a9cd-a70e-4	4f48-9c5d-c29858dbaca2	/db2_vol	
└─dbvg-dbtmp	xfs	9dcd5abd-ae6b-4	428b-b326-cf0c56d534a1	/dbtmp	

lshw

sudo lshw -short -class disk,volume			
H/W path	Device	Class	Description
===========			
=			
/0/100/14/0/3/4/0.0	).0 /dev/sda	disk	Mass-Storage
/0/100/14/0/3/4/0.0	).0/0 /dev/sda	a disk	

### last

```
# To check the last ten login attempts, you can pipe it with "head"
last | head -n 10
# using complete usernames and hostnames
last -w
# find the device used by the user
tty
# To find the last login by date,
last --since <date>
last --until <date>
last --since -2days
# find the last bad login attempts
sudo lastb
tail -f -n 100 /var/log/auth.log | grep -i failed
# find the last SSH logins
tail -f -n 100 /var/log/auth.log | grep -i sshd
sudo journalctl -r -u ssh | grep -i failed
# find last login times for all users
lastlog
lastlog -u <user>
```

# ????????

systemd-detec-virt

virt-what

## ????

sudo lshw -short				
H/W path ============	Device	Class	Description	
=				
	syst	em Nl	JC8i7HVK	
/0	bus	s NU	C8i7HVB	
/0/0	me	emory	64KiB BIOS	
/0/2f	me	emory	16GiB System Memory	
/0/2f/0	m	emory	8GiB SODIMM DDR4 Synchronous Unbuffered (Unregistered)	
/0/2f/1	m	emory	8GiB SODIMM DDR4 Synchronous Unbuffered (Unregistered)	
/0/34	m	emory	256KiB L1 cache	
/0/35	m	emory	1MiB L2 cache	
/0/36	m	emory	8MiB L3 cache	
/0/37	pr	ocessor	Intel(R) Core(TM) i7-8809G CPU @ 3.10GHz	
/0/100	b	ridge 2	Xeon E3-1200 v6/7th Gen Core Processor Host Bridge/DRA	
/0/100/1	ł	oridge	Xeon E3-1200 v5/E3-1500 v5/6th Gen Core Processor PCIe	
/0/100/1/0	/dev/fb0	display	Polaris 22 [Radeon RX Vega M GH]	
/0/100/1/0.1		multimedia	a Advanced Micro Devices, Inc. [AMD/ATI]	
/0/100/1.1		bridge	Xeon E3-1200 v5/E3-1500 v5/6th Gen Core Processor PCIe	
/0/100/1.1/0		bus	ASMedia Technology Inc.	
/0/100/1.1/0/0	usb3	bus	xHCI Host Controller	
/0/100/1.1/0/1	usb4	bus	xHCI Host Controller	
#				
sudo lshw -html > HardwareSummary.html				

#### Finding Number of Ram Slots

sudo dmidecode -t memory

sudo lshw -class memory

#### More options

Option	Description
network	Gets the details of the network hardware devices.
memory	Displays the details of RAM in your system.
storage	Prints details of the storage drives.
system	Gets the details of the motherboard and plug-and-play slots
multimedia	Details of the sound card of your system.
display	Know more about what is powering the display output.
bridge	Displays info about the PCIe bridges.
bus	It will list down buses and their details.
CPU	List the processor details

#### Inxi

# Install
sudo apt-get install inxi
# Check dependencies
inxirecommends
# Shows Full Linux System Information
inxi -F
# Find Linux Laptop or PC Model Information
inxi -M
# Find Linux CPU and CPU Speed Information
inxi -C
# Find Graphic Card Information in Linux
inxi -G
# Find Audio/Sound Card Information in Linux
inxi -A

#### **GUI** Tools

#### # HardInfo

sudo apt-get install hardinfo

#### Ispci

lspci

lspci -v -s <bus number>:<device number>.<function number>

# ???????

#### RedHat/CentOS

# RedHat/CentOS 6

yum install make libtool autoconf subversion git cvs wget libogg-devel gcc gcc-c++ pkgconfig

# RedHat/CentOS 7

yum group install "Development Tools"

#### Ubuntu/Debian

apt-get install build-essential

### dd

# []] MBR
dd if=/dev/hdx of=/path/to/image count=1 bs=512

# \_\_\_\_\_ iso [] dd if=dev/cdrom of=/root/cd.iso

# \_\_\_\_\_ dd if=/dev/urandom of=/dev/hda1

# IIII USB-Flash
dd if=/dev/sdb | gzip > ./my-usb\_flash.img.gz

```
# [] USB-Flash
gzip -dc ./my-usb_flash.img.gz | dd of=/dev/sdb
```

# [\_\_\_\_\_10GB
dd if=/dev/zero of=/path/to/image bs=1G count=10
# NOTE: [] Linux [\_\_\_\_\_]
fallocate -I 1G test.img

# Test network bandwidth between 2 Linux servers
dd if=/nas-mount-point/samplefile of=/dev/null bs=1M count=1024 iflag=direct
dd if=/dev/zero of=/nas-mount-point/samplefile bs=1M count=1024 oflag=direct
# NOTE: the samplefile is greater than 1GB and the RAM is preferably more than 2GB.

# \_\_\_\_\_\_ size \_\_\_\_\_ dd if=/dev/hda of=/dev/hdb conv=noerror,sync status=progress

# Quick benchmark test for writing 1GB file dd if=/dev/zero of=/tmp/delme.dd bs=1024 count=1000000 status=progress

### cat: ????

cat /dev/sda1 > /dev/sdb1

# history

- Bash History Display Date And Time For Each Command
- How to disable bash shell history in Linux
- Parsing Bash history in Linux
- Linux History Command with Advance Examples

See time stamp in bash history

echo 'export HISTTIMEFORMAT="%F %T "' >> ~/.bash\_profile

#### **Prevent History**

# Prevent History from Recording Any Executed Command export HISTSIZE=0

# Prevent History from Storing Certain Strings
export HISTIGNORE="passwd:ftp: "

# ??????

#### ?? Swap ? processes

```
for file in /proc/*/status ; do awk '/VmSwap|Name/{printf $2 " " $3}END{ print ""}' $file; done | sort -k 2 -n -r |
less
```

#### OOM (Out of Memory) Killer

• Linux Memory Overcommitment and the OOM Killer | Baeldung on Linux

# Swap ??

E □──── swap □─	
ree	
wapon -s	
± ∏/∏ swap	
wapon /dev/sda3	
wapoff /dev/sda3	
E IIII swap II	
nkswap /dev/sda3	

#### make-swapfile.sh?1GB

#!/bin/bash					
dd if=/dev/zero of chown root:root /s chmod 0600 /swap mkswap /swapfile	=/swapfile b wapfile ofile	s=1024 cc	ount=1024k		
echo "/swapfile	swap	swap	defaults	0 0" >> /etc/fstab	
sysctl vm.swappiness=10					
echo vm.swappiness=10 >> /etc/sysctl.conf					
free -h					
cat /proc/sys/vm/swappiness					

Extend the existing SWAP partition:

# MOTE: ??? Production ????????????????????? SWAP partition ???

[root@tycitpdb05-a ~]# grep -i swap /etc/fstab				
/dev/mapper/rootvg-swap swap	swap defaults 00			
[root@tycitpdb05-a ~]# ls -al /dev/map	per/rootvg-swap			
lrwxrwxrwx 1 root root 7 Aug 15 11:49 /	dev/mapper/rootvg-swap ->/dm-1			
[root@tycitpdb05-a ~]# swapon -s				
Filename Type	Size Used Priority			
/dev/dm-1 partition	4194300 0 -2			
[root@tycitpdb05-a ~]# swapoff -v /dev	/mapper/rootvg-swap			
swapoff /dev/mapper/rootvg-swap				
[root@tycitndh05-a ~1# lyeytend -l 16G	/dev/rootva/swap			
Size of logical volume reating/swap cha	paged from $4.00$ CiP (1024 extents) to 16.00 CiP (4006 extents)			
Size of logical volume rootvg/swap changed from 4.00 GiB (1024 extents) to 16.00 GiB (4096 extents).				
Logical volume rootvg/swap successfully resized.				
[root@tycitndb05-a ~]# mkswan /dey/rootyg/swan				
mkswan: /dev/rootva/swan: warning: wining old swan signature				
Sotting up swapspace version 1, size $= 16777212$ KiP				
$\frac{1}{2} = \frac{1}{2} = \frac{1}$				
	10-313000320311			
[root@tycitpdb05-a ~]# swapon -v /dev	/rootvg/swap			
swapon /dev/rootvg/swap				
swapon: /dev/mapper/rootvg-swap: found swap signature: version 1, page-size 4, same byte order				
swapon: /dev/mapper/rootvg-swap: pagesize=4096, swapsize=17179869184, devsize=17179869184				

# xfs ????

#### How to Check and Repair XFS Filesystem in RHEL

#### ?? xfs ????

sudo mount -a mount: /data: mount(2) system call failed: Structure needs cleaning.

sudo umount /data

# with '-n' option to perform a dry run
sudo xfs\_repair -n /dev/sdb1
# repair the filesystem
sudo xfs\_repair /dev/sdb1

#### xfs ?????

# Install the xfsdump
dnf install xfsdump
# Create a full-backup
# -L: for dump session
# -M: for media in drive
# -f: the backup destination
xfsdump -L session\_0 -M datapart -f /data/boot.xfsdump /boot
# Create a incremental backup with the level 1
# -l: the backup level (0-9)
xfsdump -l 1 -L session\_1 -M datapart -f /data/boot.xfsdump1 /boot
# Restore a full-backup
xfsrestore -f /data/boot.xfsdump /test
# Restore an incremental backup
xfsrestore -r -f /data/boot.xfsdump /test

xfsrestore -r -f /data/boot.xfsdump1 /test

# Linux Module

Linux: How to load a kernel module automatically at boot time

# ???????? (Monito File & Directory)

- Watchman A File and Directory Watching Tool for Changes
- Watchman A file watching service | Watchman (facebook.github.io)
- fswatch Monitor File and Directory Changes in Linux (tecmint.com)
- AIDE How to Check Integrity of File and Directory Using "AIDE" in Linux

• Pyinotify

# ?????

?? A.txt ????? B.txt ????

diff A.txt B.txt | grep "^<" | cut -c3-

### ?????

# tree
tree dir1
tree dir2
# diff
diff -q /path/to/dir1 /path/to/dir2
diff -q dir1 dir2
diff -qr dir1 dir2
diff -qr dir1 dir2

### 

```
# tree
tree -dfi --noreport dir1
tree -dfi --noreport dir1 | xargs -l{} mkdir -p "$HOME/Downloads/{}"
tree -a $HOME/Downloads/dir1

# find + xargs
find dir1 -type d
find dir1 -type d | xargs -l{} mkdir -p "$HOME/Documents/{}"
tree -a $HOME/Documents/dir1
# find + exec
```

#### find dir1 -type d -exec mkdir -p " $HOME/Desktop{}$ ' \;

### ?????

How to check memory utilization and usage in Linux

grep -E --color 'Mem|Cache|Swap' /proc/meminfo

- MemTotal, Total usable RAM (i.e., physical RAM minus a few reserved bits and the kernel binary code).
- MemFree, The sum of LowFree+HighFree.
- MemAvailable, (since Linux 3.14) An estimate of how much memory is available for starting new applications, without swapping.
- Buffers, Relatively temporary storage for raw disk blocks that shouldn't get tremendously large (20MB or so).
- Cached, In-memory cache for files read from the disk (the page cache). Doesn't include SwapCached.
- SwapCached, Memory that once was swapped out, is swapped back in but still also is in the swap file.

#### # Using free

free -h

# Repeat printing free command output every N seconds.

free -s 5 -c 10

- total, Total installed memory
- used, Used memory (calculated as total free buffers cache)
- free, Unused memory (MemFree and SwapFree in /proc/meminfo)
- shared, Memory used mostly by tmpfs (Shmem in /proc/meminfo)
- buffers, Memory used by kernel buffers (Buffers in /proc/meminfo)
- cache, Memory used by the page cache and slabs (Cached and SReclaimable in /proc/meminfo)
- buff/cache, Sum of buffers and cache
- available, Estimation of how much memory is available for starting new applications, without swapping.

# Using vmstat

vmstat -w

- swapd, the amount of virtual memory used.
- free, the amount of idle memory.
- buff, the amount of memory used as buffers.
- cache, the amount of memory used as cache.
- inact, the amount of inactive memory. (-a option)
- active, the amount of active memory. (-a option)
- si, Amount of memory swapped in from disk (/s).
- so, Amount of memory swapped to disk (/s).

# ???????

Dash

```
# The filename with -- or -
rm -i -v -- -foo
rm -i -v -- -foo
rm -i -v ./-foo
# The filename with -- and whitespaces
rm -i -v -- '-- My Resume . txt'
rm -i -v -- '/path/to/dir/-- My Resume . txt'
rm -i -v -- "/path/to/dir/-- My Resume . txt"
# Using find
find . -name '--my-FileNameGoes-Here' -delete
```

find /path/to/directory/ -name '---filename with a white spaces' --delete

# cp: ???????

```
# IIII alias=cp -iIIII -f IIII
yes | cp -r /source /target
```

# System Locale

```
# view information about the current installed locale
locale
localectl status
# view more information about an environmental variable
locale -k LC_TIME
# display a list of all available locales
locale -a
# Set System Locale
## Using the commands
## The following command sets LANG to en_IN.UTF-8 and removes definitions for LANGUAGE.
sudo update-locale LANG=LANG=en_IN.UTF-8 LANGUAGE
## Or
```

sudo localectl set-locale LANG=en_IN.UTF-8	
sudo update-locale LC_TIME=en_IN.UTF-8 ## Or sudo localecti set-locale LC_TIME=en_IN_UTE-8	
## Using the profile	
VI ~/.basn_profile LANG="en_IN.utf8"	
export LANG	

### ????????

- 1. Preserve File Permissions and Ownership
- 2. Maintain Symbolic Links
- 3. Avoid Disruption to Services or Applications
- 4. File Locking Issues
- 5. Efficiency in Log Management
- > access.log
  : > access.log
- true > access.log
- cat /dev/null > access.log
- cp /dev/null access.log
- dd if=/dev/null of=access.log
- echo -n "" > access.log
- truncate -s 0 access.log

### tar ??

#### • 18 Tar Command Examples on Linux

#### ??????

# 1. Switch to single user mode# NOTE: single mode \_\_\_\_\_\_, \_\_\_\_ console \_\_\_\_\_init 1

# 2. Tar up the whole system

tar zcpvf /backups/fullbackup.tar.gz --directory=/ --exclude=proc --exclude=dev --exclude=sys --exclude=boot --

exclude=run --exclude=etc/fstab --exclude=backups .

# 3. Once this completes copy the tar file over to the root directory your new machine

# 4. Take a snapshot of your new machine. This way if things go wrong you can revert to the snapshot and try again.

# 5.Extract the tarball on your new machine

cd /

tar -zxvpf /path/to/fullbackup.tar.gz

### Stress Test

- stress-ng
  - Linux ?? Stress-ng ?? CPU?????? I/O ???????? Office ?? (officeguide.cc)
  - How to Test CPU and Memory Load with Stress & Stress-ng Shouts.dev
  - How to Stress Test Your Linux CPU for High Load (tecmint.com)

stress

stress --cpu 2 --io 3 --vm 4 --vm-bytes 512M --timeout 10m

#### sysbench

```
# size IIII RAM
# max-time III
sysbench --test=fileio --file-total-size=10G prepare
sysbench --test=fileio --file-total-size=10G --file-test-mode=rndrw --init-rng=on --max-time=300 --max-
requests=0 run
```

### ?????

```
# with command
command -v <cmd-name>
# with which
```

which <cmd-name>

### getent: ??????

# The same as 'cat /etc/passwd' and 'cat /etc/shadow'

getent passwd

getent passwd <user-name>
getent shadow
getent group
getent group <group-name>
# /etc/hosts
getent hosts
# /etc/services
getent services
getent services <service-name>
# /etc/networks
getent networks

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