**Cybage Software Pvt. Ltd**

LINUX TEST

1. What is a swap space and can we installed Linux OS without creating swap partition? How to see swap statistics?

Swap space in Linux is used when the amount of physical memory (RAM) is full. If the system needs more memory resources and the RAM is full, inactive pages in memory are moved to the swap space. While swap space can help machines with a small amount of RAM, it should not be considered a replacement for more RAM. Swap space is located on hard drives, which have a slower access time than physical memory.

Swap space can be a dedicated swap partition (recommended), a swap file, or a combination of swap partitions and swap files.

Swap should equal 2x physical RAM for up to 2 GB of physical RAM, and then an additional 1x physical RAM for any amount above 2 GB, but never less than 32 MB.

**To create a swap partition** after installation, create an empty partition that should have no holes. You can then format this partition with:

sudo mkswap /dev/sdX

replacing /dex/sdX with your partition. Mount this partition as swap with

sudo swapon -U UUID

where UUID is that of your /dev/sdX as read from this:

blkid /dev/sdX

Bind your new swap in /etc/fstab by adding this line:

UUID=xxx none swap sw 0 0

If you want to use your swap for hibernating then you need to update the UUID in /etc/initramfs-tools/conf.d/resume with this content RESUME=UUID=xxx. Don't forget to $ sudo update-initramfs -u.

To complete things: it would also be possible to create a swap file in case we do not have a spare partition. This answer gives you an idea on how to create such a file and enable it on boot.

**To add a swap file:**

Determine the size of the new swap file in megabytes and multiple by 1024 to determine the block size. For example, the block size of a 64 MB swap file is 65536.

At a shell prompt as root, type the following command with count being equal to the desired block size:

dd if=/dev/zero of=/swapfile bs=1024 count=65536

Setup the swap file with the command:

mkswap /swapfile

To enable the swap file immediately but not automatically at boot time:

swapon /swapfile

To enable it at boot time, edit /etc/fstab to include:

/swapfile swap swap defaults 0 0

The next time the system boots, it enables the new swap file.

After adding the new swap file and enabling it, verify it is enabled by viewing the output of the command cat /proc/swaps or free.

Type the following command to **see total and used swap** size:

# cat /proc/swaps

#free –m

#top

#vmstat

1. What are the different run levels available in linux?

0: Halt System (To shutdown the system)

1: Single user mode

2: Basic multi user mode without NFS

3: Full multi user mode (text based)

4: unused

5: Multi user mode with Graphical User Interface

6: Reboot System

For More Details if he explain :

Switching or Changing between different runlevels:-

Method-1: Changing run level temporarily without reboot.

We can use init command to change rune levels without rebooting the system.

Ex:-if we are currently in run level 3 and want to go to run level 1, just we need to execute

# init 1

Or if you want to shutdown a machine you can take help of run level ‘0’ .Just you need to execute

#init 0

Remember this change is not permanent and on next reboot you will get your default runlevel.

Method-2: Changing run level permanently

If you want to change your default run level then

Open the file /etc/inittab and edit entry initdefault:

# vi /etc/inittab

Let’s set initdefault to 5, so that you can boot to X next time when Linux comes up:

id:5:initdefault:

1. How to assign an IP address on a linux machine? Write down file where IP address is stored.

IP addresses to reflect the values shown under :

/etc/sysconfig/network-scripts/ifcfg-eth0

# Configuration for eth0

DEVICE=eth0

BOOTPROTO=none

# This line ensures that the interface will be brought up during boot.

ONBOOT=yes

# eth0 - This is the main IP address that will be used for most outbound connections.

# The address, netmask, and gateway are all necessary.

IPADDR=198.51.100.5

NETMASK=255.255.255.0

GATEWAY=198.51.100.1

#ifconfig eth0 up

OR

# ifup eth0

# /etc/init.d/network restart

**To verify new static ip configuration for eth0, enter:**

# ifconfig eth0

# route -n

# ping 192.168.1.254

# ping google.com

How to Assign a Broadcast to Network Interface

ifconfig eth0 broadcast 172.16.25.63

1. Write down crontab for script /data/scripts/backupscript.sh to backup on every Wednesday for current year.

0 2 \* \* 3 /data/scripts/backupscript.sh

1. How to delete lines 10 to 20 in vi editor?

:10,20d

OR

:set nu

:10

:10dd

1. How many ways/types you could install packages on Linux? Write down simple example of each.

-Binary

-RPM

-YUM (Using Satellite or local/remote repository)

-Any configuration management tool like chef,puppet

e.g.,

wget from jdk from source site

$ wget <http://sun-java.com/jdk/jdk1.5.0.tar.gz>

$ tar xvzf jdk1.5.0.tar.gz

After that can set the environment variable to set default java(Pls refer the .bashrc or .bash\_profile)

$env

After setup the environment verify current jdk version

$java –version

OR

$ rpm –ivh jdk

OR

$yum install jdk

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LINUX TEST

1. What command can you use to enable an Ethernet network interface that has already been configured?

$ ifconfig eth0

To enable

$ifconfig eth0 up

OR

$ifup eth0

1. You wants to assign an IP address of 192.168.3.255 a subnet mask of 255.255.255.0, and a broadcast address of 192.168.1.254 to eth1. What command will accomplish this task?

$vi /etc/sysconfig/network-scripts/ifcfg-eth0

DEVICE=eth0

BOOTPROTO=none

# This line ensures that the interface will be brought up during boot.

ONBOOT=yes

# eth0 - This is the main IP address that will be used for most outbound connections.

# The address, netmask, and gateway are all necessary.

IPADDR=198.51.100.5

NETMASK=255.255.255.0

GATEWAY=198.51.100.1

BROADCAST=192.51.100.255

OR

$ ifconfig le0 172.16.12.2 netmask 255.255.255.0 \

broadcast 172.16.12.255

OR

/sbin/ip addr add 130.30.5.15/24 broadcast 130.30.5.255 dev eth1

1. Steps to increase number of open files in linux.

e.g.,

Increase max number of ulimit open file in Linux

1)Step : open the sysctl.conf and add this line fs.file-max = 65536

vi /etc/sysctl.conf add end of line fs.file-max = 65536

save and exit.

e.g.,

2)Step : vi /etc/security/limits.conf and add below the mentioned

\* soft nproc 65535

\* hard nproc 65535

\* soft nofile 65535

\* hard nofile 65535

save and exit check max open file ulimit

[root@localhost# ulimit -a

1. User is deleted by mistake. User’s home directory is present on system. How to create identical/same (with same name, uid and gid) new user as like old user? Write down only commands.

$useradd -u 1000 -g 1000 xxx

1. How to enable port 22 and disable all other ports in linux.

$/sbin/iptables -A INPUT -p tcp --dport 22 -j ACCEPT

$/sbin/iptables -A OUTPUT -p tcp --sport 22 -j ACCEPT

1. What is the configuration file for kernel parameters…?

/etc/sysctl.conf

1. Command to convert ext2 to ext3?

dev/sda6         /convert             ext2    defaults        0 0

Unmount the partition

umount /dev/sda6

Enable Journal (converting to ext3) using tune2fs command,

tune2fs -j /dev/sda6

Edit /etc/fstab and for /dev/sda6 change the file system type to ext3. Finally, the entry should be like this,

/dev/sda6         /convert             ext3    defaults        1 2

Mount the partition using mount command,

mount -a

If above command doesn’t work, reboot the system and check.