**[Interview Questions on Linux Filesystems with Answers](http://www.golinuxhub.com/2014/01/interview-questions-on-linux-filesystems.html)**

POSTED BY DEEPAK PRASAD SATURDAY, JANUARY 25, 2014 [3 COMMENTS](http://www.golinuxhub.com/2014/01/interview-questions-on-linux-filesystems.html#comment-form)

**1. What is the filesystem used in Rhel 5 and Rhel 6?**

**Ans:** ext3 for RHEL 5 and ext4 for RHEL 6

**2. What is the difference between ext3 and ext4 filesystem?**

**Ans:**  
**Ext3**  
Maximum individual file size can be from 16 GB to 2 TB  
Overall ext3 file system size can be from 2 TB to 32 TB  
  
**Ext4**  
Maximum individual file size can be from 16 GB to 16 TB  
Overall maximum ext4 file system size is 1 EB (exabyte). 1 EB = 1024 PB (petabyte). 1 PB = 1024 TB (terabyte).

**3. What is the command used to check any hardware changes made on the system in Linux?**

**Ans:**kudzu

**4. Is it possible to increase swap partition? If yes then how?**

**Ans:**Yes, Follow the below

[**How to Increase swap memory size in Linux**](http://www.golinuxhub.com/2012/08/increase-swap-size.html)

POSTED BY DEEPAK PRASAD SATURDAY, AUGUST 11, 2012 [1 COMMENT](http://www.golinuxhub.com/2012/08/increase-swap-size.html#comment-form)

You must have faced a [condition](javascript:void(0);) when you need to increase your swap [size](javascript:void(0);). Well I faced one when I was trying to install Oracle Database and I was out of swap memory.  
  
I will show you two ways which can be used [to do](javascript:void(0);) the same.

[**Method**](javascript:void(0);)**1**

If you have additional space in your hard disk create swap based partition.  
# fdisk /dev/sda  
Command (m for help): n  
Command action  
   e   extended  
   p   primary partition (1-4)  
e  
Partition number (1-4): 1  
First cylinder (1-48699, default 1): 1  
Last cylinder, +cylinders or +size{K,M,G} (1-48699, default 48699): +100M  
Command (m for help): p  
  
Disk /dev/sda: 51.1 GB, 51064602624 bytes  
64 heads, 32 sectors/track, 48699 cylinders  
Units = cylinders of 2048 \* 512 = 1048576 bytes  
Sector size (logical/physical): 512 bytes / 512 bytes  
I/O size (minimum/optimal): 512 bytes / 512 bytes  
Disk identifier: 0x3a369b23  
Device    Boot      Start         End      Blocks   Id  System  
/dev/sda4                    1         101      103408    5   Extended  
Command (m for help): t  
Selected partition 1  
Hex code ([type](javascript:void(0);) L to list [codes](javascript:void(0);)): L  
Hex code (type L to list codes): 82  
Command (m for help):w  
Once the partition is created run the below commands  
# partprobe /dev/sda4  
# mkswap /dev/sda4  
To utilize the created partition as swap and making it "ON"  
# swapon /dev/sda4  
To check the swap report# swapon -s  
Ensure that when the system reboots, the swap file is made available to the kernel

# vi /etc/fstab  
/dev/sda4                    swap                   swap     defaults        0 0  
[Update](javascript:void(0);) the fstab file

# mount -a  
If you want to turnoff the swap partition  
# swapoff  
To check the swap partitions  
# swapon -s  
Check the swap memory  
# free -m  
  
 **Method 2**If you donot have additional space in your hard disk create swap based file.  
**Create 512MB swap file**  
dd if=/dev/zero of=/swapfile bs=1024 count=524288  
Calculation:  
For 512 MB = 512 \* 1024  
For 2 GB = (2\*1024) \* 1024  
# mkswap /swapfile   
# swapon /swapfile  
Ensure that when the system reboots, the swap file is made available to the kernel

# vi /etc/fstab  
/swapfile                    swap                   swap     defaults        0 0  
Update the fstab file

# mount -a

**5. What is a swap partition ? What is the recommended swap partition for 8**[**GB RAM**](javascript:void(0);)**?**

**Ans:**Swap partition is a feature used in Linux which uses the space allocated to it from the physical hard drive and is utilized by the system when RAM memory goes full.  
  
**Amount of RAM in the System  Recommended Amount of Swap Space**  
4GB of RAM or less  a minimum of 2GB of swap space  
4GB to 16GB of RAM  a minimum of 4GB of swap space  
16GB to 64GB of RAM  a minimum of 8GB of swap space  
64GB to 256GB of RAM  a minimum of 16GB of swap space  
256GB to 512GB of RAM  a minimum of 32GB of swap space

**6. What is the procedure you follow to extend a LVM partition?**

**Ans:**lvextend -L +1G /dev/VolGroup/LogVol1  
This will extend the partition size by +1 GB  
resize2fs /dev/VolGroup/LogVol1

**7. What is the command to view all the available partitions on the system?**

**Ans:**fdisk -l

**8. What is the command to view all the mounted partitions on the system?**

**Ans:**mount

**9. What is the use of mtab directory?**

**Ans:**It contains a list of all the mounted directories or partitions on the system

**10.**[**How do you make**](javascript:void(0);)**permanent changes to any file inside /proc directory?**

**Ans:**sysctl -p

**11. What is the default mode when you enter single user mode?**

**Ans:**read only for the first time but once you change it to read write then from next time onward it will be read write

**12. Explain the procedure to fix a case when a system is unable to boot due to improper entry in fstab**

**Ans:**Boot into single user mode and make the necessary corrections inside fstab

**13. What does the last two sections define in fstab file?**

**Ans:**The**5th** column tells the dump information if whether the partition has to be backed up. If it is "**0**" the  
filesystem will be ignored  
The **6th** column tells the order in which fsck command would check the filesystem on boot. If it is "**0**" then fsck won't check the filesystem

**14. What is the command to display all the logical volume available in the system?**

**Ans:**lvdisplay

**15. How do you mount a windows share on Linux? Is it possible?**  
Show/Hide Answer

**Ans:**Follow the below….

 You need to have login credential for the windows share access even if the share is accessible with full permission for everyone.  
  
On Linux RHEL 5 or above  
# mount -t cifs "//path\_to\_windows\_share/Folder\_name" -o username=deepak,[password](javascript:void(0);)=my\_password  /mnt  
  
On Linux RHEL 4 or below  
# mount -t smbfs "//path\_to\_windows\_share/Folder\_name" -o username=deepak,password=my\_password  /mnt  
Here /mnt is the local mount point on Linux. You can use any other mount point in your case.  
  
Once the above command is executed make sure it ran without any error  
# echo $?  
0

It it returns zero, that means the above command executed successfully and in case the o/p is any other digit that means the earlier command was not executed properly.

Now let us verify if our windows share is mounted

# mount  
/dev/sda3 on / type ext4 (rw)  
proc on /proc type proc (rw)  
sysfs on /sys type sysfs (rw)  
//192.168.0.100/deepak on /mnt type cifs (rw)

Now you can use /mnt as any other linux directory.  
# cd /mnt  
# ls  
Let me know your success and failures.

**16. What is the difference between NFS share and a**[**Samba**](javascript:void(0);)**share?**

**Ans:**NFS sharing is done between linux to Linux where Samba sharing can be done between Linux-Linux and Linux-windows

**17. What is the default permission applied on the user when you mount a NFS permission on any**[**local directory**](javascript:void(0);)**in your system?**

**Ans:**no user permission which is a system account in all the machines having normal user level privileges unless no\_root\_squash or any other permission specification is not provided on the share

**18. What is the command to view all the kernel parameters?**

**Ans:**sysctl -a

**19. What is . and .. in very directory of Linux system?**

**Ans:**Follow the below…

[**What is . and .. in Unix/Linux ?**](http://www.golinuxhub.com/2013/12/what-is-and-in-unixlinux.html)

POSTED BY DEEPAK PRASAD WEDNESDAY, DECEMBER 25, 2013 [2 COMMENTS](http://www.golinuxhub.com/2013/12/what-is-and-in-unixlinux.html#comment-form)

So, if you are reading this blog then you are confused with the fact that each of the [directory](javascript:void(0);) in your linux/unix box contains a"." and ".." , what does this basically means?  
  
Well the answer is really simple, You just need to use a little bit of logic. Let me demonstrate you with an example.  
  
**Scenario 1**  
You need to go one step back of the current directory where you are. For eg. you are inside /home/deepak and you want to go to /home so what is the command you would run?  
  
**Answer**  
# cd ..  
Now does that 2 dots used after cd makes any sense? I think you must have got my point and the usage of double dot in each directory.  
  
**Scenario 2**  
Try to find a file with name test inside the current directory and [all directories](http://b.clicksor.net/newServing/go.php?nid=1&cpx=cpc&uid=20288620782214&pid=312518&sid=515423&spid=&kw=all%2Bdirectories&af=0&rf=0&curl=http%3A%2F%2Fxml-rtb.xapads.com%2Fclick%3Fi%3D0SETjJEvx7Q_0) inside the current directory. For eg. Find test file inside /home/deepak( which is your present working directory)  
  
**Answer**  
# find . -name test -type f  
Now as you can see I have used a single dot "." to tell my system to only look in my current directory.  
  
So basically single dot "." means current directory which actually is a hardlink to its containing directory.  
You can verify the same using the below command  
[deepak@server work]$ ls -di . "$PWD"  
66232 .  66232 /home/deepak/workreturns the same inode no.  
  
and double dot ".." means one step back i.e. the parent directory, that is the only directory where that directory is referenced from  
[deepak@server work]$ ls -di ..  /home/deepak/  
22 ..  22 /opt/fti/  
You can see the size difference between "." and".." accordingly below  
[deepak@server work]$ ls -al  
total 1592  
drwxrws--x  4 deepak deepak  2048 Nov 13 02:22 .  
drwxrws--x 23 deepak deepak  3864 Aug 22 09:57 ..

**20. What is the command to view all the variables in your system?**  
Show/Hide Answer

**Ans:**set

**21. How can you make a custom environment variable permanent so that it works even after reboot?**  
Show/Hide Answer

**Ans:**Follow the below….

[**How to set environment (PATH) variable permanently in Linux**](http://www.golinuxhub.com/2013/12/how-to-set-environment-path-variable.html)

POSTED BY DEEPAK PRASAD SATURDAY, DECEMBER 28, 2013 [5 COMMENTS](http://www.golinuxhub.com/2013/12/how-to-set-environment-path-variable.html#comment-form)

There is a time when every Linux Administrator gets stuck at a point of his career when he/she has to set a custom path or any other [environment](javascript:void(0);) [variable](javascript:void(0);) permanently in the Linux machine.  
  
Suppose you have added a new path to the PATH variable using the shell but you might observe that every time you switch terminal the PATH variable does not works.  
  
**Solution**  
To make this issue to be resolved permanently you need to add the variable inside .bashrc or .bash\_profile file inside the home folder of the user.  
  
For example, you want to add a PATH variable for root user so you need to add the path inside ~/.bashrcor ~/.bash\_profile  
  
Now the confusion comes which file should we place the variable or inside both the files?

**Difference between .bashrc and .bash\_profile**

Every time you login to a Linux (Red Hat) machine .bash\_profile file is executed  
**but**  
In case you are already logged in and you open a new terminal then .bashrc file is executed  
  
So, basically you can put the environment variable inside any of the two files. As per me I would advice you to put the same inside .bash\_profile.

**WHY?**

Have a look at .bash\_profile file  
# less ~/.bash\_profile  
# Get the aliases and functions  
if [ -f ~/.bashrc ]; then  
        . ~/.bashrc  
fi  
  
# User specific environment and startup programs  
  
PATH=$PATH:$HOME/[bin](javascript:void(0);)  
  
export PATH  
export PATH=$PATH:/usr/local/samba/bin

You can see in the highlighted part in blue in the above part, every time .bash\_profile is executed it also runs .bashrc along with it. As you can see I have added an extra PATH variable for my samba so that I do not need to set it every time I log in.

Sorry for the long post but just thought to clarify in the best possible way from my side.