**Server Interview Questions And Answers for linux admin**

**Q: - Explain this entry /shared 192.168.1.0/255.255.255.0(sync,rw)**

allows all systems with 192.168.1.\* IP addresses read-write access to the /shared/ directory:

**Q: - What will happened if a space is given inbetween allowed\_hosts and (options)**  
  
If a space is included, the options are applied to any and all IP addresses, which can be quite dangerous if write permission is granted.

**Q: - What is the role of "sync" option for NFS server**  
  
If sync is specified, the server waits until the request is written to disk before responding to the client. The sync option is recommended because it follows the NFS protocol.

**Q: - How to retrieve a list of clients connected to the NFS server ?**  
  
To retrieve a list of clients connected to the NFS server, use the showmount command  
from a shell prompt. To also show the directories the clients are connected to, use the  
showmount -a command.

**Q: - Name of Configuration file for NFS Server ?**  
  
/etc/exports

**Q: - What is meaning of "no\_root\_squash" option ?**  
  
Treat remote root user as local root. Do not map requests from root to the anony-  
mous user and group ID.

**Q: - What is NFS ?**  
  
NFS stands for Network File System. NFS was originally developed by Sun Microsystems in the 1980's. NFS allows remote hosts to mount file systems over a network and interact with those file systems as though they are mounted locally. This enables system administrators to consolidate resources onto centralized servers on the network.

**Q: - Which NFS versions are available ?**  
  
NFS Version 2  
NFS Version 3  
NFS Version 4

**Q: - What is different between NFS Version 2 & 3 ?**  
  
nfs 2 default 8kb transfer rate,it did not check the authentication at the time connection.client wants to access unauthorized file it shows error messages like "write error","read error" nfs 3 32kb transfer rate. It check at the time connection- ACL Support

**Q: - Can we grant access by Username and password for nfs share?**

No, access is granted only for IP address.

**Q: - What is the role of "all\_squash" option?**

Treat all client users as anonymous users. Map all user and group IDs to the anonymous user and group ID.

**Q: - What is the role of "root\_squash" option?**

All requests from the user root are translated or mapped as if they came from the user anonymous (default).

**Q: - Explain option "all\_squash"?**

The UID and GID of exported files are mapped to the user anonymous. It is good for public directories.

**Q: - Explain "exportfs" command?**

The exportfs command is used to maintain the current table of exported file systems for NFS.

**Q: - Explain command "/usr/sbin/exportfs -f"?**

It will flush everything out of the kernels export table. Any clients that are active will get new entries added by mountd when they make their next request.

**Q: - Which option is used with exportfs command to display the current export list, also displays the list of export options?**

exportfs -v

**Q: - Which option is used with exportfs command to re-export all directories?**

exportfs -r

**Q: - How you will export directory (/data) to host 192.168.1.51, allowing asynchronous writes without adding the entry in /etc/exports file?**

# exportfs -o async 192.168.1.51:/data

**Q: - Is rpc.mountd daemon supports TCP\_WRAPPERS?**

Yes, The rpc.mountd daemon is protected by the tcp\_wrappers. You have to give the clients access to rpc.mountd if they should be allowed to use NFS Server.

**Q: - Explain "nfsstat" command?**

The nfsstat command displays the statistics about NFS client and NFS server activity.

**Q: - What do you understand by "nfsstat -o all -234" command?**

It will Show all information about all versions of NFS.

**Q: - What do you understand by "nfsstat --nfs --server -3" command?**

It will show statistics for NFS version 3 server.

**Q: - Can NFS share mounted on Window XP and Justify your answer?**

No, Window XP operating system doesn’t support nfs protocol.

**Q: - 192.168.1.51:/data is exported by NFS Server and i want to add this NFS share to client /etc/fstab file. How you will add this entry in /etc/fstab file?**

# device mount-point fs-type options dump fsckorder

192.168.1.51:/data /mnt nfs rw 0 0

**Q: - Explain "Soft Mounting" option at NFS Client?**  
  
if a file request fails, the NFS client will report an error to the process on the client machine requesting the file access. if it cannot be satisfied (for example, the server is down), then it quits. This is called soft mounting.

**Q: - Explain "Hard Mounting" option at NFS Client?**

If a file request fails, the NFS client will report an error to the process on the client machine requesting the file access. if it cannot be satisfied, then it will not quit until the request is satisfied. This is called Hard mounting.

**Q: - What is "portmap"?**

The portmapper keeps a list of what services are running on what ports. This list is used by a connecting machine to see what ports it wants to talk to access certain services.

**Q: - How you will check "portmap" service is running or not?**

rpcinfo -p

**Q: - I am unable to mount a NFS share. How will you trace out the reason?**

Firstly, check that you have permissions to mount nfs share or not. Check /etc/exports file.

Secondly you can get RPC error: Program Not Registered (or another "RPC" error)

For this check your NFS server and portmap service running or not by "rpcinfo -p"

**Q: - Can I modify export permissions without needing to remount clients in order to have them take effect?**

Yes. The safest thing to do is edit /etc/exports and run "exportfs -r".

<http://www.linuxhowto.in/2012/07/nfs-server-interview-question-and.html>

Good website …please open..

**NFS,NIS,SAMBA,POSTFIX,SENDMAIL,QMAIL**

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**Q. What is the role of "root\_squash" option?**

**Ans:** All requests from the user root are translated or mapped as if they came from the user anonymous (default).

**Q. Explain "exportfs" command?**

**Ans:** The exportfs command is used to maintain the current table of exported file systems for

**Q. Difference between nfs soft and hard mouniting points?**

**Ans**: Hard mount option:- If the client fails to access the server, then connection hang it, after the system up then it access the server. Soft:- If the client failed to connect the server it Immediately gives the error report, and close the connection.

To retrieve a list of clients connected to the NFS server use show mount command from Shell prompt.

Showmount -a

**Q. Name of the configuration file for NFS server?**

**Ans**: /etc/exports/

**Q. Can we grant access based on user name and password?**

**Ans:** No, access is granted only for IP address

**Q. Explain command "/usr/sbin/exportfs -f" ?**

**Ans:** It will flush everything out of the kernel export tab

**Q. Explain Hard and Soft Mounting in NFS?**

**Ans :** If a file request fail, the NFS client will report an error to the process on the client machine requesting the file access. If it cannot be satisfied the it quite. This is called Soft mounting.

If a file request fails, NFS client will report an error to the process on the client machine requesting the file access. If cannot be satisfied, then it will not quit until the request if satisfied. This is called hard mounting.

**Q. What is portmap?**

**Ans:** The portmapper keeps a list of what services are running on what [ports .The list is used by a connecting machine to see what ports it wants to talk to access certain services.

**Q. Which SELinux ports Samaba server works?**

**Ans**: Samba\_share\_t

**Q. On which Ports SAMBA server works?**

**Ans:**

UDP port 137 for NetBIOS-ns, NETBIOS name Service

UDP port 138 for netbios-dgm, NetBIOS Datagram service

TCP port 139 for netbios-ssn , NETBIOS session service

TCP port 445 for microsoft-d, Microsoft domain service

**Q.What are the Security or Authentication mode for SAMBA server?**

**Ans**:

ADS

DOMAIN

SERVER

USER

SHARE

**Q. What are the SAMBA server types ?**

**Ans:** Primary Doman controller

Backup Domain controller

ADS domain controller

**Q.Which protocol SAMBA Server uses?**

**Ans:** SMB, which stands for server Message block, is a protocol for sharing printers, serial ports and communication abstraction such as named pipes and mail slots between computers.

**Q. How SMP protocol works?**

**Ans:** There will be three stages in creating SM connection between a client and specific shares on the server

The first stage in connecting to an SMB share is to negotiate the SMB protocol dialect to use. IN the request packet the client send a text listing all the SMB dialects that it understands. The server selects the most advanced protocol that it knows and responds to the client specifying the protocol number from the list .At this point the client and server have agreed SMB commands can be used for the remainder of the conversation.

The second stage is to create a session connection between the client and server. To do this the client issues a session setup request .which included a surname and some proof of validity such as password .The server attempts to validate requesting user. IF successful the server then returns a session UID to client .This UID is unique for each session and has no relation to the server internal representation of user.

Third stage before access to file on a remote share is allowed si for the client to make successful tree connection to the shared resource .The client sends to the server a tre connect request, which includes the UID previously issued by the server .At this stage the server verifies that the authenticated user is authorized to access the requested resource. If the user has sufficient privileges to access the share, the client is issued a tree connection ID. The TID is used in all request files contained in the resource to which the TID referees.

**Q. How many Section Samba Configuration File (Smb.conf) contains?**

1. [Global] - Contains Settings that determines samba overall behavior

2. [Homes}- A default share for providing a home directory for all users

3. [Printers] - A default share for Exporting All printer on the host via CIFS.

**Q.What is SWAT?**

**Ans:** Swat is GUI based administration toll for Samba

**Q.What is the roles for NTLM?**

The chanllange/repsonse authentication protocol available to windows clients and server for validating connection request.

**Q. What is nbd daemon?**

**Ans:** This daemon handles all name registration and resolution request .It is the primary vehicle involved in network browsing .It handles all UDP based protocol. The nmbd daemon should be first command to start as a part of the samba start up process.

**Q. What is smdb daemon?**

**Ans:** This daemon handles all TCP/IP based connection services for file and print based operation .It also manages local authentication. It should be started immediately following the start up of nmbd.

**Q. what are the daemons running In NIS? how to do u create NIS users and update Maps?**

**Ans:** Below daemons will run the NIS

1) ypservd

2) ypxfrd

3) yppasswd

4) ypbind

**Q. What is the difference between TFTP and FTP servers?**

**Ans:** Both are file transfer servers but slight difference is TFTP server uses UDP protocol and FTP uses TCP protocol. TFTP is good for slow connection paths.

**Q. What is the port no for FTP?**

**Ans:** 20 for Data and 21 for Control(normally when an interviewer ask's ftp port number just say 21.

**Q. What is the port no for TFTP?**

**Ans:** 69.

**Q. How to restrict users to their home directories?**

**Ans**: By setting up "chroot\_local\_user=YES".

**Q. How to restrict total number of users accessing FTP server?**

**Ans:** If Vsftpd is running under xinted service, then you can use xineted to get per-service per IP connection limits or

If you run vsftpd in "standalone" mode with the "setting listen=YES", then

you can investigate the setting (e.g.) : "max\_clients=10"

**Q.I want to copy multiple files with out prompting for any info, how can I do that one?**

**Ans:** Simply do "ftp -i ftpserver" this command will suppress any info displayed on ftp server or you can just type prompt ftp prompt to suppress info messages have a look here.

**Q. Some times Local users cannot log in. How to resolve this issue?**

**Ans:** Check "local\_enable=YES" in your /etc/vsftpd/vsftpd. conf to allow local users to log in.

**Q.In which port telnet is listening?**

**Ans:** 23

**Q. How do we integrate with LDAP( Lightweight Directory Access Protocol )users and login?**

**Ans:** Use vsftpd's( Very Secure FTPD) PAM(Pluggable Authentication Modules) integration to do this, and have PAM authenticate against an LDAP repository.

**Q. What is sand witch configuration in qmail?**

**Ans:** Qmail + Clam + Spamassassin- This is normally called Sandwitch configuration in qmail.

**Q. Advantages of Qmail?**

**Ans:** More secure, better designed, modular, faster, more reliable, easier to configure, don’t have to upgrade it every few months or worry about being vulnerable to something due to some obscure feature being enabled qmail supports host and user masquerading, full host hiding, virtual domains, null clients, list-owner rewriting, relay control, double-bounce recording, arbitrary RFC 822 address lists, cross-host mailing list loop detection, per-recipient checkpointing, downed host backoffs, independent message retry schedules, etc. qmail also includes a drop-in “sendmail” wrapper so that it will be used transparently by your current UAs.

**Q.What is the difference between POP3 and IMAP ?**

**Ans:** The Difference

POP3 works by reviewing the inbox on the mail server, and downloading the new messages to your computer. IMAP downloads the headers of the new messages on the server, then retrieves the message you want to read when you click on it.

When using POP3, your mail is stored on your PC. When using IMAP, the mail is stored on the mail server. Unless you copy a message to a “Local Folder” the messages are never copied to your PC.

Scenarios of Use

POP3

· You only check e-mail from one computer.

· You want to remove your e-mail from the mail server.

IMAP

· You check e-mail from multiple locations.

· You use Webmail.

**Q. How to block and open relay?**

**Ans:** Open relays are e-mail servers that are configured to accept and transfer e-mail on behalf of any user anywhere, including unrelated third parties.

The qmail-smtpd daemon will consult the rcpthosts control file to determine valid destination addresses, and reject anything else.

**Q. Which Groups and Users are required to start QMAIL Server?**

Groups :- nofiles

qmail

Users :- qmaild

alias

qmaill

qmailp

qmailq

qmailr

qmails

**Q.What is the role of "qmail-send" process ?**

**Ans**: qmail-send - deliver mail messages from the queue

**Q. How to check, qmail server is up or down?**

Ans: We can use qmailctl command to check the status of qmail server.

# qmailctl stat

/service/qmail-send: up (pid 30303) 187 seconds

/service/qmail-send/log: up (pid 30304) 187 seconds

/service/qmail-smtpd: up (pid 30305) 187 seconds

/service/qmail-smtpd/log: up (pid 30308) 187 seconds

messages in queue: 0

messages in queue but not yet preprocessed: 0

**Q. On which port Send mail and SSL works?**

**Ans:** By default Sendmail uses TCP and UDP port 25 for non encrypted transfers. If the sendmail server is configured to use SLL for encrypting email Send and received it uses port 465.

**Q.Explain use of trusted-user file?**

**Ans:** List of users that can send email as other users with out a warning including system users such as apache for the Apache http server

**Q. Explain the use for “local-host -name" ?**

**Ans:** If the mail server should be known by different hostnames, list the host names in this file, one line per hostname.

**Q. Explain the use of access file?**

**Ans:** Can be used to redirect email from one user to another. By default it included redirects for system accounts to the root user.

**Q. What is the role of MUA?**

**Ans:** An MUA (Mail user agent) with access to the mail box file, directly or through a network file system, can read message form the dist and display them for the user.

**Q. What is the location of postfix mail server queue?**

**Ans:** By Default the post-fix mail ques are /var/spool/postfix directory. Message queue is created as a separate sub directory within this directory .Each message is stored as a separate file in the sub directory, using unique identifier for the file name.

**Q.What is LMTP?**

**Ans:** The local Mail Transport Protocol is different mail transport protocol described in RFC 2033.LMTP utilizes as a set protocol similar to SMTP for delivering messages to the local host .Postfix can be configured to deliver messages to local users.

**Q.What is canonical Table?**

**Ans:** The clean up program uses the canonical table to rewrite message address contained in the message header .The mail administrator can use one canonical lookup table for both received messages and sent messages or separate tables for each.

**Q. What is the difference between Postfix and Sendmail?**

**Ans:** The mail difference between Postfix and Sendmail is Postfix Modularity .Just as the Unix system broke up email functionality between modules, postfix extends that practice to the MTA program. This allows each modular program to be smaller and quicker than on e large.

Postfix is more secure than sendmail.Postfix uses separate userID to be adds to the mail server. Each module runs under this user id.

##### Linux - What is NFS? What is its purpose? - August 21, 2008 at 22:00 pm by Rajmeet Ghai

### What is NFS? What is its purpose?

**Answer**NFS is Network File system. It is a file system used for sharing of files over a network. Other resources like printers and storage devices can also be shared. This means that using NFS files can be accessed remotely. Nfs command in linux can be used to achieve this.

Purpose of NFS:

* NFS can be used for sharing of files remotely.
* Data can be stored on a single machine and still remain accessible to others over the network.
* Reduction of the number of removable media drives throughout the network since they can be shared.

### Question 10 : Explain NFS mount options ?

Syntax to mount NFS FS:  
  
#mount -t vfstype [-o options] NFS Servername:/exporteddirectory /mount point  
  
or  
  
#mount -t nfs -o options host:/remote/export /local/directory  
  
  
  
**Mount options explained below :**  
  
1. -0 initr  
  
This option is used in non reliable network, or network having more network congestion. NFS request will be interrupted when server is not reachable.  
  
2. -o hard   
  
If hard option is specified during nfs mount, user cannot terminate the process waiting for NFS communication to resume. For ex ..if u ran ls -a command on ur NFS mounted directory but that time ur NFS server went down means .  
The process wont get killed or stopped ..it will wait until the NFS server and mount poit become available.  
  
3. -o soft   
  
If soft option is specified during nfs mount, user will get error alert when NFS server is not reachable. This is just inverse of hard mount option. It wont wait for reply if the NFS server went down , it will alert us and the process will go down.  
  
4. -o Nfsvers=value  
  
If this option is specified during nfs mount NFS client uses particular NFS protocol version to communicate.   
  
For example - TCP   
  
# mount -t nfs -o tcp 192.168.1.4:/mnt/array1/RHEL5 /data/  
# mount | grep -i tcp  
192.168.1.4:/mnt/array1/RHEL5 on /data type nfs (rw,tcp,addr=192.168.1.4)  
  
The Difference between HARD and SOFT mount option explained in another POST.

## Question 11: Explain TOP command output / Various states of CPU

# us -> User CPU time: The time the CPU has spent running users’ processes that are not niced.  
# sy -> System CPU time: The time the CPU has spent running the kernel and its processes.  
# ni -> Nice CPU time: The time the CPU has spent running users’ process that have been niced.  
# wa -> iowait: Amount of time the CPU has been waiting for I/O to complete.  
# hi -> Hardware IRQ: The amount of time the CPU has been servicing hardware interrupts.  
# si -> Software Interrupts.: The amount of time the CPU has been servicing software interrupts

### Question 12: How to check architecture of Linux OS

We can use below commands to check the architecture of server OS,  
  
  
1. #getconf LONG\_BIT  
  
2.#uname -a  
  
3.#grep flags /proc/cpuinfo  
  
4.#arch  
  
5.#file /bin or file bc

### Question 9 : What is HARD and SOFT mount in NFS ?

**In HARD mount ...**  
  
If the NFS file system is hard mounted, the NFS daemons will try repeatedly to contact the server. The NFS daemon retries will not time out, will affect system performance, and you cannot interrupt them  
  
If you just mount a file system without specifying hard or soft, the default is a hard mount. Hard mounts are preferable because of the stateless nature of NFS.  
  
If a client sends an I/O request to the server (such as an ls -la), and the server gets rebooted, in client machine the process will keep on running.  
This preserves data transfers in the event of a server failure  
  
**IN SOFT Mount :**  
  
A soft mount allows the client to stop trying an operation after a period of time. If the NFS server goes down at the time of data transfer , it will alert and the process will do down.Thsi may cause the data corruption.  
A soft link will return with an error and fail.  
  
you should only use soft mounts in the cases where client responsiveness is more important than data integrity.  
  
In another word ..soft mount will allow automatic unmount if the filesystem is idle for a specified time period

**NFS : Important Interveiw Questions !!**

Here I would like to share few of NFS Questions generally asked in the Interview.  
  
1. **What RPM you need for NFS server?**  
  
rpm -qa nfs\*  
nfs-utils-1.0.9-33.el5  
nfs-utils-lib-1.0.8-7.2.z2  
  
2. **What daemon is need for NFS to start?**  
  
NFS depends on the portmapper daemon, either called portmap or rpc.portmap. It will need to be started first. It should be located in /sbin but is sometimes in /usr/sbin. Most recent Linux distributions start this daemon in the boot scripts, but it is worth making sure that it is running before you begin working with NFS (just type ps aux | grep portmap)  
  
3.**What daemons takes care of NFS serving?**  
  
NFS serving is taken care of by five daemons:   
  
**rpc.nfsd**, which does most of the work;   
  
**rpc.lockd and rpc.statd**, which handle file locking;  
  
**rpc.mountd,** which handles the initial mount requests, and   
  
**rpc.rquotad,** which handles user file quotas on exported volumes.   
  
Starting with 2.2.18, lockd is called by nfsd upon demand, so you do not need to worry about starting it yourself. statd will need to be started separately. Most recent Linux distributions will have startup scripts for these daemons.  
  
The daemons are all part of the nfs-utils package, and may be either in the /sbin directory or the /usr/sbin directory.  
  
If your distribution does not include them in the startup scripts, then then you should add them, configured to start in the following order:  
  
rpc.portmap  
rpc.mountd, rpc.nfsd  
rpc.statd, rpc.lockd (if necessary), and rpc.rquotad  
  
4.**You made some changes in /etc/exports. Does it show effect immediately?**  
  
No.  
You should run the command **exportfs -ra** to force **nfsd** to re-read the /etc/exports file. If you can't find the exportfs command, then you can kill nfsd with the -HUP flag (see the man pages for kill for details).  
  
If that still doesn't work, don't forget to check hosts.allow to make sure you haven't forgotten to list any new client machines there  
  
5.**What software you need for NFS Client setup running? ( Very Important)**  
To begin using machine as an NFS client, you will need the **portmapper** running on that machine, and to use **NFS file locking**, you will also need rpc.statd and rpc.lockd running on both the client and the server.  
  
With portmap, lockd, and statd running, you should now be able to mount the remote directory from your server just the way you mount a local hard drive  
with the mount command  
  
6.How to get NFS File Systems to Be Mounted at Boot Time?  
  
An Entry in /etc/fstab is enough  
  
master.foo.com:/home /mnt nfs rw 0 0  
  
7.**What is Hard Mounting and Soft Mounting in NFS terminology?**  
  
There are some options you should consider adding at once. They govern the way the NFS client handles a server crash or network outage. One of the cool things about NFS is that it can handle this gracefully. If you set up the clients right. There are two distinct failure modes:  
  
soft  
  
If a file request fails, the NFS client will report an error to the process on the client machine requesting the file access. Some programs can handle this with composure, most won't. We do not recommend using this setting; it is a recipe for corrupted files and lost data. You should especially not use this for mail disks --- if you value your mail, that is.   
hard  
  
The program accessing a file on a NFS mounted file system will hang when the server crashes. The process cannot be interrupted or killed (except by a "sure kill") unless you also specify intr. When the NFS server is back online the program will continue undisturbed from where it was.   
  
8. **Whats the solution for NFS then?**  
  
We recommend using hard,intr on all NFS mounted file systems.  
  
Picking up the from previous example, the fstab entry would now look like:  
  
# device mountpoint fs-type options dump fsckord  
...  
master.foo.com:/home /mnt/home nfs rw,hard,intr 0 0  
  
9.**How to do NFS performance optimization?**  
  
Follow the link http://www.linux.org/docs/ldp/howto/NFS-HOWTO/performance.html for better understanding.  
  
Hope it helps you attending overall important interview questions.  
Read this space again. I will add up more in future.