Linux System Administrator Interview Questions

You'll Most Likely Be Asked

Job Interview Questions Series

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Linux System Administrator Questions

Review these typical interview questions and think about how you would answer them. Read the answers listed; you will find best possible answers along with strategies and suggestions.

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General Questions

1: What is the difference between Telnet and SSH?
Answer:
Although Telnet and SSH are both communication protocols to manage a remote system, the SSH is the secured version of the telnet, and will require key exchange unlike Telnet which sends the data on clear-text.

2: When you need to edit a file by a system command (like crontab -e) how do you change the default editor that the system opens the file with to nano?
Answer:
The system will use the editor defined in your EDITOR environment variable and can be set by *export* EDITOR=*nano*

3: While using X, you encounter issues and cannot quit the X server, how can you force it to restart?
Answer:
Linux has a solution for restarting X server with the combination of Alt-Ctrl-Backspace which will force X Restart.

4: What would be the result of the key combination ALT+9 then pressing m?
Answer:
This would print the letter *m* 9 times into your STDIN.

5: Which TCP ports do you need to keep open for FTP, SSH, SMTP, POP3, HTTP and HTTPS respectively?
Answer:
For the mentioned services you will need to keep the following TCP ports free: 21, 22, 25, 110, 80, 443.

6: What is the difference between the commands *ping* and *ping6*?
Answer:
The commands ending with 6 - ping6, traceroute6, tracepath6 have the same meaning, but are intended to use on ipv6 IP addresses.

7: What does an open mail relay server mean?
Answer:

An Open mail relay server, means that this is a server that everyone can send emails through it without the need to identify first or be a part of the domain group.

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General Tools

8: You want to find all of the ".tmp" files in /home/* and delete them, how can you do it in a command?
Answer:
First you need to find the files using find, then delete them using rm - *find /home/ -name '*.tmp' | xargs rm –rf.*

9: How can you add an "auto correction" that will automatically fix "cd /homr" to "cd /home"?
Answer:
You can add the option cdspell to your shell options by typing "*shopt -s cdspell*".

10: How do you get additional information about a command - for example get information about mail?
Answer:
If you want to learn about a command, you can use the commands *man mail* or *info mail* to learn more about mail.

11: You are running a crontab command and doesn't want the command to send an output to the crontab service, how can you handle it?
Answer:
You can send all of the output from the command (STDOUT AND STDERR) to /dev/null - *commandName 2>&1 >/dev/null*

12: How can you list the arp cache table of the current machine?
Answer:
You can use the command arp to control and view the arp table.

13: How can you eject your cdrom drive from the console?
Answer:
In order to eject the cdrom drive, you can use the command *eject*.

14: You see a process "./myApplication" with PID 44556, how can you know where was the file executed from?
Answer:

You can identify the path where the PID was executed by running *pwdx* 44556 and you will get the command executing path as an output.

15: You are doing an installation and want to record your commands and outputs for later review, how can you do that?
Answer:
You can use the *script* application for this functionality - type *script - a mysession*.log and it will start recording your terminal to mysession.log, when you want to exit, type exit.

16: How can you get a view of the calendar of January 2004 on a Linux console?
Answer:
You can get the view of month/year calendar with the command: *cal 01 2004*.

17: You have 100 .txt files in a directory, you want to know in which file you have the string "Error Found", how can you do it?
Answer:
You will need to use the command "grep" in order to find data in files *- grep "Error Found" *.txt*

18: What command is used to get the IP address(es) of the domain name Google.com in Linux?
Answer:
In order to find the related IP Address(es) of the domain google.com you can use "*nslookup google.com"*

19: What will be the outcome of the following command - touch -m myFile?
Answer:
If the file exists, it will only change the *modification time* of the file, if the file doesn't exist, it will create it.

20: Given the directory "myImportantFiles" how can you create a tar file "myImportantTar.tar" containing this folder?
Answer:
You need to use the tar command to create a tar file - *tar -cf myImportantTar.tar myImportantFiles.*

21: How can you know, without checking the logs, which Kernel version is currently loaded to the system?
Answer:
The *uname* tool allows you to get various system information - to get only the kernel data, you can use *uname –rsv*.

22: What is the equivalent of "Norton commander" or "Windows Commander" for Linux console?
Answer:
Linux provides the mc (Midnight Commander) tool to allow the user to have an interactive interface for file management in Linux Console.

23: How can you change a password of a different user (john), when you have root access?
Answer:
Using the *passwd* command with the destination username - *passwd john*

24: How do you make sure that your computer date & time are always aligned?
Answer:
You need to connect your server to an *ntp* server using *ntpd*, or run manually "*ntptime ntpserver.com"*

25: You have a tar file (myFile.tar), how do you convert it to a gzip file on best compression?
Answer:
If you need to compress the file on a best compression, you need to run the command "*gzip -9 myFile.tar*" and it will convert it to *myFile.tar.gz.*

26: How can you disable eth1 during runtime?
Answer:
In order to disable a network card, for the current runtime , you can run the command "*ifdown eth1*" or "*ifconfig eth1 down*".

27: How can you get the current username that you are logged in with?
Answer:
You can find the user that you are logged in with, using the commands "*who am I*" or "*whoami*".

28: Using the apt-get application, how can you install gcc compiler?
Answer:
The apt-get allows you to download and install new applications like gcc - *apt-get install gcc*

29: How do you run the internal "remote-desktop" VNC application on Linux?
Answer:
In order to run the *vncserver* daemon and connect to the server using a *vncviewer* on port 15000 + vnc instance number (15001,15002).

30: How can you find all lines starting with the word "Error" in the log file "mylog.log", with a single command?
Answer:
The Linux command look allows you to find only lines beginning with the provided string - look Error mylog.log

31: You have a file that you want to randomize its lines and create permutations of it for distinctive file list, how can you create a permutation of the file "myfile" into "mynewfile"?
Answer:
The Linux tool shuf allows you to create permutations of file and shuffle the lines, which will allow you to create new distinctive files - shuf myfile > mynewfile.

32: You have moved a file from one server to another, but you are not sure that the file has been perfectly moved, how can you verify that the file has not been corrupted?
Answer:
You can use the *md5sum* tool on both sides (both servers) on the file and match the result, if it is the same, the file has not been corrupted.

33: How would you copy the file "file.txt" owned by root using secure ftp from 10.1.1.1 on /root/ to your local folder in one command?
Answer:
You need to use the scp tool (secure copy over sftp) which allows copying in one line *scp root@10.1.1.1:/root/file.txt ./*

34: How will you change all the ownership of /home/user1 to user2 (recursively)?
Answer:
You need to use the chown command on the directory - *chown user2:user2 /home/user1 –R.*

35: How can you check how long is the system running since the last restart and the load average on it?
Answer:
The *uptime* command can show you the current time, how long the system has been running since the last restart, how many users are currently logged on to the system, and the system load averages in the resolution of the last 1, 5, and 15 minutes.

36: How can you check what processes a specified user (tom) is currently running?
Answer:
ps command will output the current processes of all or specific users - *ps -U tom*.

37: How can you see all the running processes at the system and their resources use on a live auto-refreshing view?
Answer:
Top lets you see all the processes in the system and sort them by resources usage.

38: What is the tool provided with gzip for decompression?
Answer:
The gzip tool provides another tool *gunzip* for gzip files decompression.

39: You are waiting for a file to finish upload (newFile.tar.gz) by a user to your directory and you know that the file size is 100M - how can you sample the file every 5 seconds to see if it was changed?
Answer:
You can monitor commands using "*watch -n 5 'ls -sh newFile.tar.gz*'" and it will give you the output of the command every 5 seconds.

40: How would you see the contents of a gzip compressed contents without decompressing it first?

Answer:
Using zcat with the following command: *zcat <filename>.gz*

41: You have found a command on /bin/ that you don't know what it does, and you want a brief explanation about it, what do you do in order to find it?
Answer:
You can find a command brief information using: *whatis <command>*

42: What is the difference between locate and slocate?
Answer:
Unlike locate, which will search the updated results for the file, *slocate* will look for files that the user have access to.

43: What does the command locate expecting in order to provide successful results?
Answer:
The command locate relays on the database created by *updatedb* and will provide results according to the last updated db.

44: How can you search for the word "FindMe" in all of the ".txt" files in the current directory, recursively?
Answer:
Find . -name "*.txt" | xargs grep "FindMe"

45: How can you send a message "Hello everyone" to everyone who is currently connected to the system?
Answer:
If you want to send a message to all of the connected users, you can use the command "*wall Hello everyone*".

46: Create a crontab that will run once a day at 3am and write the output of ls into /tmp/ls_result (truncate the file) ?
Answer:
a) Edit crontab: crontab -e
b) Add crontab line: 0 3 * * * /bin/ls > /tmp/ls_result
c) Save crontab.

47: How do you create a symbolic link between /bin/runme to the new file /bin/runmetoo?

Answer:
You need to use the link tool “ln” in order to create links - *ln -s /bin/runme /bin/runmetoo*.

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Advanced Tools

48: How can you make the file untouchable.txt to be immutable (un-alterable) so it will not be able to be changed or deleted by any user including root?
Answer:
You can use attributes to change the file to be immutable using *chattr +i untouchable.txt.*

49: How can you run a PHP statement from the command line without creating a file?
Answer:
You can use the PHP interactive input - php -r 'echo "Hello World\r\n";'

50: How can you find the usage time of all the users on the machine (individually)?
Answer:
You can use the command ac in order to get login information about users - *ac -p*

51: How can you use variables as a part of your command? For example, set pipeline="|" and run *ps aux $pipeline grep root*
Answer:
You can use the *eval* command to use variables literally - *eval ps aux $pipeline grep root* will be the same as *eval ps aux | grep root*.

52: You want to create network statistics and graphs for your server, which tool would you use (most common)?
Answer:
The most common network statistics tool is called *mrtg* (Multi Router Traffic Grapher) and is the most recommended open-source tool.

53: How can you send the BIOS a query message directly from the command line?
Answer:
In order to query the BIOS, you can send it a message from the console by using the *biosdecode* tool.

54: How can you manipulate partitions on a Linux system?

Answer:
Linux provides two applications for partition manipulation - fdisk and parted.

55: What is the result of the *lsmod* command?
Answer:
The *lsmod* command will show you the status of modules that are loaded into the Linux kernel , this is a nice way to see /proc/modules.

56: How can you find your hardware configuration and description of the local machine?
Answer:
Using the DMI table decoder (*dmidecode*) you can see your system hardware and configuration.

57: How can you mount an NTFS partition on Linux?
Answer:
You need to use an external application *"ntfs-3g"* also called *"mount.ntfs"* in order to mount ntfs.

58: What is the LD_LIBRARY_PATH environment variable?
Answer:
It is an environment variable set to give the RT Shared library loader extra directories to look for when searching for shared libraries.

59: How can you get the Access, Modify and Change date & time of the file "myFile"?
Answer:
In order to get those times, you need to use *stat myFile* and look for the Access/Modify/Change information.

60: You want to save the mysql DB "mySQLDB" to a file "mySQLDB.sql", how can you do it?
Answer:
You can use the mysqldump command to dump a database – *mysqldump -u username -p mySQLDB > mySQLDB.sql*

61: How can you prioritize system resources per *running process*?
Answer:

The system allocate and prioritize resources for processes on the system using *nice* levels, and in order to change the nice of a specific process, you need to run *renice level <process id>*

62: How can you get the NS records of the domain "google.com" from the terminal command line?
Answer:
The command dig allows you to get specific domain information, such as A, AAAA, NS, etc' records - you can use *dig google.com NS.*

63: You are running a tail -f on /var/log/messages file and looking for specific error, you want only the log that you saw to be printed into a local file "found.log" in order to search it later on a smaller file, how can you do it?
Answer:
The *tee* command allows you to save data from the standard I/O to a file, you can use it as *tail -f /var/log/messages | tee found.log* and it will save you only the data that you saw on the tail.

64: How do you check all the services that start/stop on each runlevel?
Answer:
In order to check the runlevel services information for the run levels you need to use the chkconfig: *chkconfig –list*.

65: How can you allow a user to run *superuser* commands without knowing the root password?
Answer:
If you want to allow a user to run *superuser* commands without having *superuser* (or root) access, you can add him specific (or all) access using *sudoers* file.

66: How can you check which libraries are being used and needed for the binary file /bin/vi?
Answer:
Running the tool *"ldd /bin/vi"* will show you the shared libraries needed to run the binary application /bin/vi.

67: You want to install a new PERL module, what is the correct way to do it?
Answer:

PERL has its management console *cpan* that allows you to install new modules using the command *"install Group::Module"*.

68: How can you enable jumbo-frame (9000) on a network interface eth0 in Linux?
Answer:
You can use *ifconfig eth0 mtu 9000*, but in order to make it permanent you will need to add it to the *ifcfg-eth0 file.*

69: Explain the following command: "*iptables -A OUTPUT -p icmp --icmp-type echo-request -j DROP*"
Answer:
The command will add a rule to the iptables that will drop all PING requests to the server.

70: What does the wine application does on Linux system?
Answer:
The *wine* application allows you to run windows applications on a Linux server/workstation.

71: What is the Nagios system?
Answer:
The Nagios is an open-source monitoring tool/application that helps identify and resolve infrastructure/network problems.

72: You need to generate a random number in the console, how can you do it without any random application?
Answer:
Generate a number string from the /dev/urandom - *od -N3 -tu2 -vAn < /dev/urandom | sed 's/ //g'*

73: You have a very secret file "TOP-SECRET.txt", which needs to be deleted "for good", how can you do it?
Answer:
You can use the shred tool to overwrite the file X times so it will not be able to recover - *shred -n 10 -z TOP-SECRET.txt.*

74: You are in a directory /home/user/downloaded/ and you want to share the files in this directory quickly over web without configuring an httpd server, how can you do it with python?
Answer:

The Python script language allows a quick httpd service called SimpleHTTPServer, and you can share the local directory you're in using the command *python -m SimpleHTTPServer*

75: While running a command interactively, how do you send the command into background?
Answer:
To send a command to the background, click Ctrl+Z, it will send you to the command line and pause the application, then type *bg* in order to send that command to background.

76: How can you compile a regular c application "myprog.c" and create a binary "myprog"?
Answer:
The most common way to compile is with the "gcc" compiler, and in order to compile a c file to a binary file you run *gcc myprog.c -o myprog.*

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Files Manipulation

77: You have an application that creates a log file "myApplication.log" that grows 1GB a day. You want to save only the last 3 days, on 100MB file each, how would you do that?
Answer:
In order to do that task you will need to add a new configuration (/etc/logrotate.conf) to the logrotate service with 30 files of 100M each (100M * 10 day * 3 days).

78: Given a file unformattedLetters.txt containing text in the form of "tHiS iS AN UnForMatteD tEXt", how can you change in one command all the letters to lower case and output it to formattedLetters.txt?
Answer:
You can use the *tr* command to replace letters from upper/lower and vice versa - *cat unformattedLetters.txt | tr "[:lower:]" "[:upper:] > formattedLetters.txt"*.

79: How would you connect the files first.txt, second.txt and third.txt to one file all.txt?
Answer:
You can *cat* the files together into an output file - *cat first.txt second.txt third.txt > all.txt.*

80: You have a file (myfriends.txt) with names list, and you want to know how many unique names you have in that file, how can you do that?
Answer:
You can run over the file and count unique names with: *uniq myfriends.txt | wc -l*

81: You want to run a binary file, you have permissions to it, but it gives you "Access Denied", what do you need to do?
Answer:
In order to run an application in Linux you need to add executable permission to the file: in order to change a file mode, you need to use the chmod with the required parameters - *chmod +x <filename>*.

82: Given a CSV file "a.csv" , how can you get the first column, of all the rows, into a new file called "result.log"?
Answer:
cat a.csv | awk -F',' '{print $1}' >> result.log.

83: You want to create files 1-100.log with the same text "Hello This is a test" in it, how can you do it?
Answer:
For i in `seq 1 100` ; do echo "Hello this is a test" > $i.log ; done.

84: You have an xml file (myXML.xml) which is all in one line, how do you convert the xml into a well-formatted XML ?
Answer:
You can manipulate XML files using the "xmllint" application - *xmllint --format* myXML.xml.

85: Given the text file "MyLog.log", which is written backwards, how can you invert the order of the lines?
Answer:
cat MyLog.log | nl -ba | sort -rn | cut -f2-

86: How can you find and display *only the differences* between myconfig.new and myconfig.old?
Answer:
In order to find differences, we will use *sdiff,* and in order to see *only the differences*, we will use the -s argument: *sdiff -s myconfig.new myconfig.old*

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Linux Understanding

87: How can you set KDE to be the default desktop manager?
Answer:
You will need to edit the file */etc/sysconfig/desktop* and add the following lines:
DESKTOP="KDE"
DISPLAYMANAGER="KDE"

88: When will you encounter a kernel panic issue?
Answer:
A kernel panic will encounter when the system had found a critical error like - an error communicating with the hardware or a missing OS file.

89: What is an *intrid* image?
Answer:
An *intrid* image is the initial ram disk image that is loaded into the memory after the POST in order to improve the machine's I/O performance; it will contain a temporary root file system.

90: What is the minimum partitions do you need for a Linux installation?
Answer:
The minimum partitions that you need in order to install a Linux installation is two(2), root and swap.

91: What is the recommended size for the swap partition to be (minimum size) if you have 2GB RAM?
Answer:
The SWAP partition minimum recommended size is RAM*2 and never less than 32MB, therefore for 2GB RAM you should have 4GB SWAP.

92: How can you add special commands to run after the init process has been completed?
Answer:
In order to add a command that will run after the system finish its initialization, you can add the command to */etc/rc.local*.

93: Explain the following statement:
ls -lhrS | grep -i $USER | tail -3 | awk '{ print $5, $9; }'
Answer:
a) List the files (Long list) + human read + reverse + order by size.
b) Grep only lines matching my user name
c) Get the 3 last results
d) Manipulate the string and print the 5th and 9th parameters (size + file name)

94: You want to set global environment and startup programs for all users, where can you set it?
Answer:
The */etc/profile* configuration file holds the global profile parameters and is inherited by the users on login, you can add your configuration there.

95: In which configuration can you set the user prompt automatically to all bash users to look like [user@host][~]#?
Answer:
You can set bash configuration for all the users in the */etc/bashrc* configuration file.

96: What would the command "ls -d /root" as a regular user give you as an output?
Answer:
The command will give you an output of information on that specific directory (-d) this will help you understanding why you don't have access to the directory.

97: What would be the result of the command "#reboot now"?
Answer:
The "#" sign states a comment, therefore the command "reboot now" would be ignored.

98: What would be the result of the command *"!l"* after running *"ls"* then *"id"* then *"who"*?
Answer:
"!" will run the latest command matching "l*" therefore it will run "ls"

99: What would be the result of type for?

Answer:
For is a *shell internal command* therefore it will be detected as a *shell keyword*.

100: How can you identify, using environment variables, which shell are you currently using?
Answer:
The system holds your shell name in $SHELL and you can print it using *echo $SHELL*.

101: What is the difference between "su root" and "su - root"?
Answer:
When running "su root" you only change the UID and GUID and stay in the current environment, if you use the minus sign "su - root" you also initiate his login and inherit his environment which will make the change user the same as a real login.

102: What is the difference between the commands "cd /tmp && pwd" and "(cd /tmp && pwd)"?
Answer:
When running the first command, you will move to the /tmp folder, and stay there when the command ends, unlike when running the second command, where you go back to the starting directory.

103: What are the most common steps in the procedure of installing a source tarball?
Answer:
a) extract the tarball
b) ./configure
c) make
d) make install

104: You are working on a demo site "mydomain.cool" which the domain does not exist, but it is configured on your local server apache that runs on the IP 10.10.10.1, how can you change it to work from your local browser?
Answer:
You can add the host "mydomain.cool" to be resolved by your server by adding the line "10.10.10.1 mydomain.cool" to */etc/hosts*.

105: In bash shell, how can you change your command prompt of root to look like [User][Host]{path} #
Answer:
You need to change the PS1 environment variable: *export PS1='[\u][\h]{\w}# '*

106: How can you delete a file called "--test"?
Answer:
As "--test" may be considered as an argument, you need to add "--" before the fie name: *rm -- --test*

107: You want to change the Message Of The Day, How can you do it?
Answer:
In order to change the Message Of The Day, you need to edit */etc/motd.*

108: What is the minimum memory required in order to run XFree86
Answer:
XFree86 requires the minimum of *8MB* to run.

109: How do you create a new file system using a command?
Answer:
You can create a new file system with the *mkfs* command.

110: Which are the valid wildcards in Linux?
Answer:
Linux supports the following wildcards: ? *and* *

111: How would you send a command into the background?
Answer:
Add Ampersand in the end of the command: i.e. *./run_file_exec &*

112: How do you redirect a command STDERR response into STDOUT
Answer:
In order to direct the STDERR into the STDOUT, you need to add the redirection parameters to the command - <Command> 2>&1.

113: What is the difference between `*echo Hello > tmp.log*` and `*echo Hello >> tmp.log*`?
Answer:
When using > you truncate the file and insert a new row, when using >> you add new line at the end of the file.

114: What is the limit of a Linux file name?
Answer:
256 Characters.

115: How do you send a SIGKILL to a process?
Answer:
kill -9 <process_id>

116: What is a Linux ISO?
Answer:
Downloadable binary file containing a CD/DVD disc image of a Linux distribution

117: Given the text "fileone,filetwo,filethree,filefour", you need to delete all of the .sh files with those names (fileone.sh filetwo.sh…), how can you do it with brace expansion?
Answer:
In order to use brace expansion, you need to add it to take the list and use it in braces -
rm -f {fileone,filetwo,filethree,filefour}.sh.

118: You have a scripts directory called /scripts/ and you want to add it temporarily to your executable path, how can you do that?
Answer:
Your executable path are extracted from the environment $PATH, you can add temporary item to it on the current shell using -
export PATH=$PATH:/scripts.

119: If I have configured the parameter TTL in my domain configuration file (named) to 14400, what does it mean?
Answer:
The domain TTL configuration is setting the time which name-servers querying the name server will cache the results in their DB before asking the server for new configuration.
14400 seconds is 4 hours.

120: You want to encrypt and password-protect a password file "mysecret.txt", how can you do it with GPG and then decrypt it to view the contents?
Answer:
In order to gpg encrypt a file, you type "*gpg -c mysecret.txt*" and choose your desired password.
In order to decrypt it and view the contents, you type "*gpg -d mysecret.txt.gpg*"

121: You want to traceroute a remote server with an interactive interface and fast resolution (more than traceroute), how can you do it?
Answer:
The mtr tool allows you a fast and much more interactive solution for the server administrator than traceroute.

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Server Administration

122: How can you find which of the users (residing in /home/) are using the most HD space?
Answer:
You should use the du tool to get the HD usage and find the most heavy directories - *du -hs /home/* | sort -nr | head -10*.

123: How can you change your server timezone to a Europe/France timezone?
Answer:
You need to link the file */usr/share/zoneinfo/Europe/Paris to /etc/localtime*.

124: How do you change the user tom's login shell to /bin/sh?
Answer:
You need to use the command *chsh -s /bin/sh tom.*

125: What is the difference between "kill <PID>" and "kill -9 <PID>"?
Answer:
When adding "-9" to the kill command, it tells the PID to exit immediately instead of exiting in the correct way - cleaning children/temp/sockets.

126: How do you add a virtual network interface on eth0 with the ip 10.10.10.1 on class C?
Answer:
You can add virtual interfaces on eth cards that will hold additional system IPs - ifconfig eth0:0 10.10.10.1 netmask 255.255.255.0.

127: How can you define the log level of the messages that are written to /var/log/messages?
Answer:
The logs that are being sent to the messages log are being managed by the syslogd which is configured in */etc/syslog.conf*.

128: How can you turn your Linux server into a router?
Answer:

In order for the Linux server to allow routing, you need to allow ip forwarding on it by:
echo "1" > /proc/sys/net/ipv4/ip_forward and setting net.ipv4.ip_forward = 1 in /etc/sysctl.conf

129: What is the difference between a swap file and a swap partition?
Answer:
A swap file is a local file on your partition and can be used by the current system, whereas the swap partition is a standalone partition and can be used by multiple OS.

130: Given installed RPM file "xinetd-2.3.14-10.el5" how can you know which files on the system belong to this RPM?
Answer:
RPM allows you to query an RPM and identify its files by: *rpm -ql xinetd-2.3.14-10.el5.*

131: Given a local file /usr/bin/pstree" on the HD, how can you identify if it came from an RPM?
Answer:
RPM allows you to reverse-query the RPM DB and search its files by: *rpm -qf /usr/bin/pstree*

132: What is the LVM and where can you find its configuration?
Answer:
The LVM is the Linux Volume Manager and its configuration is found under */etc/lvm/lvm.conf.*

133: How can you get the status of all the services configured on your Linux machine?
Answer:
You can use the service command to stop/start and get information about the services - *service --status-all.*

134: How can you change the system library paths?
Answer:
In order to change the system library paths, you need to edit the file */etc/ld.so.conf* and then run *ldconfig* to reload the changes.

135: How can you disable all ping responses from the Linux machine?
Answer:
You need to manipulate the ip configuration files - *echo 1 > /proc/sys/net/ipv4/icmp_echo_ignore_all*

136: You want to force the user john to change his password after 90 days, how can you do that?
Answer:
The *chage* tool allows you to force a user to change his password after X days - *chage -M 90 john*

137: How can you list all of the USB buses and devices that are connected?
Answer:
You can run the command "*lsusb*" which will give you the bus information and who is using it.

138: Your hardware clock and your system clock are not the same, how can you sync between your system clock and the hardware clock?
Answer:
The hardware clock can be reached by the *hwclock* and in order to sync them you can use the command *hwclock --systohc* to copy the system to *hw* to *hwclock --hctosys* to copy the hw to system.

139: How can you check the status of bad blocks on your hard drive?
Answer:
The *badblocks* application gives you information about the HD bad blocks - *badblocks -s /dev/sda*

140: How do you show all the current mounts and their stats?
Answer:
Using the command *df -ah* you can get information about your current mounts including available/used space

141: How can you check the memory and paging status (free, used, cached)?
Answer:

Using *free -m* you will get the current memory status, including free, used, cached both for the physical and swap memory.

142: How can you get cpu and harddrive activities average report?
Answer:
iostat gives you information and averages about your system I/O for the CPU and HD.

143: If you want to get statistical information about your server for the previous days, how can you do that?
Answer:
In order to get statistical information about your server, you can use sar.

144: How can you get CPU statistics, per CPU or Core?
Answer:
In order to get statistical information, per CPU/Core, you can use "*mpstat -P ALL*"

145: How can you find which of the directories (top level) on the current directory is the heaviest (kb)?
Answer:
Use du to get the size of each top level dir, and sort it
du -k --max-depth=1 | sort -nr

146: Where does the Linux system save its passwords?
Answer:
The Linux system passwords are encrypted and saved in */etc/shadow*.

147: You're using a Linux system and you're not sure which distribution you're using right now, how do you check it?
Answer:
In order to find the Linux distro information, you can use: *cat /etc/*release*

148: How can you check how many ports are currently being used (listening) on the local machine, and which application is listening on each port?
Answer:

In order to know the listening ports and applications, you can check *netstat* output: *netstat -tupln*

149: You've forgotten the root password, how can you login to your system in order to change it?
Answer:
Reboot the machine and start the Linux in *single mode*, change the password, and login with the new password.

150: How can you change the behavior of the Linux DNS search to first look for DNS and only then in the hosts files?
Answer:
Change hosts parameter in /etc/nsswitch.conf from "files dns" to "dns files".

151: How can you find, who was logged in to the system, the dates, and the amount of time they were logged in?
Answer:
In order to find the last users logged in to your system you can use "last".

152: How can you find out which process is using the port 80 on your Linux?
Answer:
Fuser 80/tcp –v

153: Where can you find the following configuration: "%admin ALL=(ALL) ALL"
Answer:
Sudoers configuration.

154: What is the major change between the ext2 and ext3 file systems?
Answer:
The *ext3* contains journaling, unlike the *ext2*.

155: How can you manipulate incoming and outgoing packets in Linux?
Answer:
Using *iptables*

156: On a default Linux installation, your root UMASK value is 022 - what does it mean?
Answer:
UMASK is the file creation permissions mask, by having 022 it means that a new file will be created as 644 and a directory with 755.

157: Where can you find information about your Linux server CPU?
Answer:
On a Linux system, your server information is kept on */proc/*
You can find the CPU information in */proc/cpuinfo*.

158: If you want to trace (attach to) a process and trace its system calls and signals (file/memory access), how can you do it?
Answer:
In order to attach to a process, you need to find the process number and then attach to it with *strace* - i.e.
strace -p <process_number>

159: How can you dump the server boot messages into a local log file "myboot.log"?
Answer:
The boot messages you need to use the dmesg tool and dump it to myboot.log
dmesg > myboot.log.

160: Someone is trying to hack your system (valid and invalid users), write a command that will show you failed ssh logins to the system and its date & ip as "Jul 8 12:00:00 username 192.168.10.10"
Answer:
You can find the failed logins in the secure log, filter by failed logins, and make a unified line for parsing.
cat /var/log/secure | grep "Failed password for" | sed 's/invalid user//g' | awk '{ print $1,$2,$3,$9,$11; }'

161: You have a DNS server and you have updated your configuration - how do you tell the named to reload the configuration with the DNS admin tool?
Answer:

The DNS admin tool is the *rndc* - you can use it to reload the configuration with - *rndc reload*

162: What is the difference between the "crontab" and the "at" functionality?
Answer:
Crontab (Cron command) is used to schedule a task daily at the same time (or times) repeatedly, on the other hand, the "at" command is used to schedule the task only to run only one time.

163: How can you add a file system (partition) that will be mounted automatically when the Linux is booting?
Answer:
In order to allow automatically mounting of a partition, you will need to add the partition to your *fstab* under /etc/fstab and provide Label, mount point, FS Type and options/permissions.

164: You have decided to add 80.161.161.1 to your DNS servers (for DNS resolving), which file should be edited and what should be added to this file?
Answer:
The */etc/resolv.conf* holds your DNS servers list; you need to add a new line "*nameserver 80.161.161.1*" at the end of the file.

165: How can you set the eth0 interface to auto-negotiation on?
Answer:
You can use the *ethtool* to configure the eth card:
ethtool --change eth0 autoneg on.

166: How can you display your server routing table (IP view)?
Answer:
You can get a display of your current routing table without resolving for faster results, by using the command *route –n*.

167: You want to run the application *heavyapplication* with a low priority so it will not take all the resources from the system and run at the lowest priority there is, how can you do it during the application start?
Answer:
Using the *nice* tool, you can start an application with the desired nice level

- *nice -n 19 heavyapplication.*

168: How can you change the default init runlevel to 5?
Answer:
In order to change the default init runlevel you need to edit the file /etc/inittab and change the line starting with "id"
- *"id:5:initdefault:"*

169: You have an application crashes, but there is no core file created, what should you do?
Answer:
Make sure that the *ulimit -c* is not set to 0, this will disable the creation of the core dump creation.

170: The time is 1:00 PM, you have upgraded the kernel and need to reboot, but you won't be here at night, how can you tell the system to shutdown at 1AM?
Answer:
You can define time to the shutdown command: *shutdown -r 01:00* will reboot at 1AM

171: How do you check the *seLinux* status?
Answer:
In order to get information about the *seLinux*, you can run the command *sestatus* and get its current status.

*****

Services and Daemons

172: What is the purpose of an exim service on a server?
Answer:
The *exim* service is an SMTP service that can replace the regular *sendmail* service that comes with the Linux installation.

173: What solution will you use for a reverse proxy in Linux?
Answer:
In Linux, the two main solutions are Squid and Apache reverse proxy, the most common is the Squid and it is mostly recommended.

174: What is the purpose of a NIS server?
Answer:
A NIS server is a Network Information Service and it provides the user the possibility to login to different system with the same credentials.

175: If you would like to use the apache tools in order to benchmark your apache service that holds www.google.com using 5 concurrent requests over 20 overall requests, what tool would you use and how?
Answer:
You can use the ab (*apache benchmarking*) tool on *localhost*
- ab Http://google.com -n 20 -c 5.

176: What does each of the error codes 200, 300, 400 and 500 in apache mean?
Answer:
2xx are successful requests, 3xx are redirection, 4xx are client error and 5xx are server error codes.

177: Create a new Apache VirtualHost configuration for the host www.google.com that sits at /home/google/public_html/ and default logs on /var/log/httpd/
Answer:
*<VirtualHost *:80>*
DocumentRoot /home/google/public_html
ServerName www.google.com
ServerAlias google.com

CustomLog /var/log/httpd/google.com.log combined
ErrorLog /var/log/httpd/google.com.error.log
</VirtualHost>

178: How do you stop the Apache HTTPD service, through its control script?
Answer:
The apache control script is called *apachectl* and you can stop the apache using *"apachectl stop"*

179: How can you enable, on a default Linux installation, root remote access through SSH?
Answer:
Edit ssh configuration on /etc/ssh/sshd_config and enable Root by changing "PermitRootLogin" to "yes".

180: What is the difference between *"apachectl restart"* and "*apachectl graceful*"?
Answer:
apachectl restart will force the Apache to stop all its processes and restart the service, the *apachectl graceful* will "advise" the httpd processes to restart only after the finish their current work.

181: How can you add the service sshd to start when starting at INIT level 3?
Answer:
You need to use the chkconfig tool in order to change the runlevel parameters:
chkconfg --level 3 sshd on.

182: How can you dump all the packets of http traffic into http.out?
Answer:
In order to capture network traffic, we should use tcpdump.
tcpdump tcp port 80 -s0 -w http.out.

183: You want to check a slow download from a remote server to check long download sessions, how can you do it?
Answer:
In order to download a file and be able to cap your connection you can use the *wget* network limitation option:

wget http://test.com/bigfile.zip --limit-rate=10k.

184: How can you check the mail queue of an exim mail server?
Answer:
The exim mail server allows a quick and clean command to view the mail queue – *mailq*.

185: How do you configure the nfs exports/mounts of your machine?
Answer:
The /etc/export allows you to create *nfs* exports and expose them to the world.

*****

Scripts

186: How can you create a script that will wait for specific output and will act according to it? - for instance, wait for "username:" before sending the username.
Answer:
Linux provides a tool that "expects" a specific string and sending new commands in response which called *"expect"*.

187: You want to add logger to your script, how can you send logging messages to the /var/log/messages for your script "MyCoolScript"?
Answer:
If you want to write to the messages file, you can use the logger tool which is the syslogd api and send log messages - *logger -t MyCoolScript Starting Application….*

188: Using perl, write a command that will print all the IPs, Bcasts and Masks configured on the server line by line.
Answer:
You need to extract the IPs from the ifconfig first, then run on each line and get the required information -
ifconfig -a | perl -n -l -e '/ addr:([^].+)/ and print $1'

189: Write a shell script that checks if a file (as an argument) has write permissions - if its available print "write access approved" else print "no write access".
Answer:

```
#!/bin/bash
filename ="$1"

if [ -w "$filename" ]
then
echo "write access approved"
else
echo "no write access";
fi
```

190: You have a bash script that does not produce the expected result, how can you debug it?

Answer:
In order to debug a bash shell script, you need to add "-x" to the shell execute line - *"#!/bin/bash -x"*

191: You have a regular user access to a server, with no root permissions, but you need to create a script that requires root permissions to run - how can you manipulate the system to think that you have root permissions, without a real superuser access?
Answer:
Linux provides a tool called *fakeroot* that allows you to run a "fake root shell" that will present you as root and your id as 0, this will make the system believe that you have root access for the current run.

192: Write a script that receives one parameters (file name) and checks if the file exists or not - If it does, print "Roger that!" else, print "Huston we've got a problem!"
Answer:
```
#!/bin/bash
FILE=$1
if [ -f $FILE ];
then
echo "Roger that!"
else
echo "Huston we've got a problem"
fi
```

193: Write a script that checks if a file, given as an argument, has more than 10 lines or not, if it does - print "Over 10", else print "Less than 10"
Answer:
```
#!/bin/bash
count=`cat $1 | wc -l`
if [ "$count" -gt "10" ] ;
then
echo "Over 10"
else
echo "Less than 10"
fi
```

194: You want to create a backup script called "backupMyFiles" and it will run every hour, how do you make sure that your script

is not already running when you run the script - write a short script that will handle this issue and exit with the message "Previous <command> is still running" in case the script is still in the background.

Answer:

You need to check if your script is currently running in the system - you can do it with *ps*

```
#!/bin/bash
cmd=namedScript
runningProcs=`ps --no-headers -C${cmd}`
count=`echo $runningProcs|wc -l`
if [ $count -gt 1 ]; then
echo "Previous $cmd is still running."
exit 1
fi
```

195: create a Fibonacci function (Fn=Fn-1+Fn-2) using awk (until F20).

Answer:

```
awk 'BEGIN {
fa=1;
fb=1;
while(++i<=20)
{
print fa;
ft=fa;
fa=fa+fb;
fb=ft
};
exit}'
```

196: Write a script that will go over all the users on the system and will write the last login date of the user - if we don't have information about the last login, write "No data for <username>"

Answer:

```
#!/bin/sh
for i in `cat /etc/passwd | awk -F: '{print $1; }'` ;
do
last=`last $i | head -n 1`;
if [ "$last" != "" ];
then
```

echo `last $i | head -n 1`;
else
echo "No data for $i"
fi
done

197: How can you check what are the most common commands that you have used in the Linux shell?
Answer:
You can get this information from the history command and sort it by most used - *history | awk '{h[$2]++}END{for(c in h){print h[c] " " c}}' | sort -nr | head.*

198: Write a script that goes to *http://www.whatismyip.org/* and writes "Your IP is: <Result from site>".
Answer:
#!/bin/sh
ip=`links --source http://www.whatismyip.org/`
echo -n "Your IP is: "
echo $ip

199: Create a small calculator in bash script which will have an internal function "dosomething" that will receive a math function as an input - mycalc 4+4*4.
Answer:
#!/bin/bash
function dosomething
{
echo "${1}"|bc -l;
}
dosomething $1

200: Create a script called KillUserProcs that will get a username as an input and will kill all his processes.
Answer:
#!/bin/bash
kill -9 `ps aux|awk -v var=$1 '$1==var { print $2 }'`

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HR Questions

Review these typical interview questions and think about how you would answer them. Read the answers listed; you will find best possible answers along with strategies and suggestions.

*****

1: Tell me about yourself.
Answer:
The most often asked question in interviews. You need to have a short statement prepared in your mind. Keep your answer to one or two minutes. Don't ramble. Be careful that it does not sound rehearsed. Limit it to work-related items unless instructed otherwise. Talk about things you have done and jobs you have held that relate to the position you are interviewing for. Start with the item farthest back and work up to the present (If you have a profile or personal statement(s) at the top of your CV use this as your starting point).

2: Why did you leave your last job?
Answer:
Stay positive regardless of the circumstances. Never refer to a major problem with management and never speak ill of supervisors, co-workers or the organization. If you do, you will be the one looking bad. Keep smiling and talk about leaving for a positive reason such as an opportunity, a chance to do something special or other forward-looking reasons.

3: What experience do you have in this field?
Answer:
Speak about specifics that relate to the position you are applying for. If you do not have specific experience, get as close as you can.

4: Do you consider yourself successful?
Answer:
You should always answer yes and briefly explain why. A good explanation is that you have set goals, and you have met some and are on track to achieve the others.

5: What do co-workers say about you?
Answer:
Be prepared with a quote or two from co-workers. Either a specific statement or a paraphrase will work. Bill Smith, a co-worker at Clarke Company, always said I was the hardest worker's he had ever known. It should be as powerful as Bill having said it at the interview himself.

6: What do you know about this organization?
Answer:

This question is one reason to do some research on the organization before the interview. Research the company's products, size, reputation, Image, goals, problems, management style, skills, History and philosophy. Be informed and interested. Find out where they have been and where they are going. What are the current issues and who are the major players?

7: What have you done to improve your knowledge in the last year?
Answer:
Try to include improvement activities that relate to the job. A wide variety of activities can be mentioned as positive self-improvement. Have some good ones handy to mention.

8: Are you applying for other jobs?
Answer:
Be honest but do not spend a lot of time in this area. Keep the focus on this job and what you can do for this organization. Anything else is a distraction.

9: Why do you want to work for this organization?
Answer:
This may take some thought and certainly, should be based on the research you have done on the organization. Sincerity is extremely important here and will easily be sensed. Relate it to your long-term career goals. Never talk about what you want; first talk about their Needs. You want to be part of an exciting forward-moving company. You can make a definite contribution to specific company goals.

10: Do you know anyone who works for us?
Answer:
Be aware of the policy on relatives working for the organization. This can affect your answer even though they asked about friends not relatives. Be careful to mention a friend
only if they are well thought of.

11: What kind of salary do you need?
Answer:
A loaded question! A nasty little game that you will probably lose if you answer first. So, do not answer it. Instead, say something like, that's a tough question. Can you tell me the range for this position? In

most cases, the interviewer, taken off guard, will tell you. If not, say that it can depend on the details of the job. Then give a wide range.

12: Are you a team player?
Answer:
You are, of course, a team player. Be sure to have examples ready. Specifics that show you often perform for the good of the team rather than for yourself is good evidence of your team attitude. Do not brag; just say it in a matter-of-fact tone. This is a key point.

13: How long would you expect to work for us if hired?
Answer:
Specifics here are not good. Something like this should work:
I'd like it to be a long time. Or As long as we both feel I'm doing a good job.

14: Have you ever had to fire anyone? How did you feel about that?
Answer:
This is serious. Do not make light of it or in any way seem like you like to fire people. At the same time, you will do it when it is the right thing to do. When it comes to the organization versus the individual who has created a harmful situation, you will protect the organization. Remember firing is not the same as layoff or reduction in force.

15: What is your philosophy towards work?
Answer:
The interviewer is not looking for a long or flowery dissertation here. Do you have strong feelings that the job gets done? Yes. That's the type of answer that works best here. Keep it short and positive, showing a benefit to the organization.

16: If you had enough money to retire right now, would you?
Answer:
Answer yes if you would. But since you need to work, this is the type of work you prefer. Do not say yes if you do not mean it.

17: Have you ever been asked to leave a position?
Answer:
If you have not, say no. If you have, be honest, brief and avoid saying negative things about the people or organization involved.

18: Explain how you would be an asset to this organization.
Answer:
You should be anxious for this question. It gives you a chance to highlight your best points as they relate to the position being discussed. Give a little advance thought to this relationship.

19: Why should we hire you?
Answer:
Point out how your assets meet what the organization needs. Also mention about your knowledge, experience, abilities, and skills. Never mention any other candidates to make a comparison.

20: Tell me about a suggestion you have made.
Answer:
Have a good one ready. Be sure and use a suggestion that was accepted and was then considered successful. One related to the type of work applied for is a real plus.

21: What irritates you about co-workers?
Answer:
This is a trap question. Think real hard but fail to come up with anything that irritates you. A short statement that you seem to get along with folks is great.

22: What is your greatest strength?
Answer:
Numerous answers are good, just stay positive. A few good examples: Your ability to prioritize, Your problem-solving skills, Your ability to work under pressure, Your ability to focus on projects, Your professional expertise, Your leadership skills, Your positive attitude

23: Tell me about your dream job or what are you looking for in a job?
Answer:
Stay away from a specific job. You cannot win. If you say the job you are contending for is it, you strain credibility. If you say another job is it, you plant the suspicion that you will be dissatisfied with this position if hired. The best is to stay genetic and say something like: A job where I love the work, like the people, can contribute and can't wait to get to work.

24: Why do you think you would do well at this job?
Answer:
Give several reasons and include skills, experience and interest.

25: What do you find the most attractive about this position (Least attractive)?
Answer:
a) List a couple of attractive factors such as the responsibility the post offers and the opportunity to work with experienced teams that have a reputation for innovation and creativity.
b) Say you'd need more information and time before being able to make a judgment on any unattractive aspects.

26: What kind of person would you refuse to work with?
Answer:
Do not be trivial. It would take disloyalty to the organization, violence or lawbreaking to get you to object. Minor objections will label you as a whiner.

27: What is more important to you: the money or the work?
Answer:
Money is always important, but the work is the most important. There is no better answer.

28: What would your previous supervisor say your strongest point is?
Answer:
There are numerous good possibilities:
Loyalty, Energy, Positive attitude, Leadership, Team player, Expertise, Initiative, Patience, Hard work, Creativity, Problem solver.

29: Tell me about a problem you had with a supervisor.
Answer:
Biggest trap of all! This is a test to see if you will speak ill of your boss. If you fall for it and tell about a problem with a former boss, you may well below the interview right there. Stay positive and develop a poor memory about any trouble with a supervisor.

30: What has disappointed you about a job?

Answer:
Don't get trivial or negative. Safe areas are few but can include:
Not enough of a challenge. You were laid off in a reduction Company did not win a contract, which would have given you more responsibility.

31: Tell me about your ability to work under pressure.
Answer:
You may say that you thrive under certain types of pressure. Give an example that relates to the type of position applied for.

32: Do your skills match this job or another job more closely?
Answer:
Probably this one! Do not give fuel to the suspicion that you may want another job more than this one.

33: What motivates you to do your best on the job?
Answer:
This is a personal trait that only you can say, but good examples are: Challenge, Achievement, and Recognition.

34: Are you willing to work overtime? Nights? Weekends?
Answer:
This is up to you. Be totally honest.

35: How would you know you were successful on this job?
Answer:
Several ways are good measures:
You set high standards for yourself and meet them. Your outcomes are a success. Your boss tells you that you are successful and doing a great job.

36: Would you be willing to relocate if required?
Answer:
You should be clear on this with your family prior to the interview if you think there is a chance it may come up. Do not say yes just to get the job if the real answer is no. This can create a lot of problems later on in your career. Be honest at this point. This will save you from future grief.

37: Are you willing to put the interests of the organization ahead of your own?
Answer:
This is a straight loyalty and dedication question. Do not worry about the deep ethical and philosophical implications. Just say yes.

38: Describe your management style.
Answer:
Try to avoid labels. Some of the more common labels, like progressive, salesman or consensus, can have several meanings or descriptions depending on which management expert you listen to. The situational style is safe, because it says you will manage according to the situation, instead of one size fits all.

39: What have you learned from mistakes on the job?
Answer:
Here you have to come up with something or you strain credibility. Make it small, well intentioned mistake with a positive lesson learned. An example would be, working too far ahead of colleagues on a project and thus throwing coordination off.

40: Do you have any blind spots?
Answer:
Trick question! If you know about blind spots, they are no longer blind spots. Do not reveal any personal areas of concern here. Let them do their own discovery on your bad points. Do not hand it to them.

41: If you were hiring a person for this job, what would you look for?
Answer:
Be careful to mention traits that are needed and that you have.

42: Do you think you are overqualified for this position?
Answer:
Regardless of your qualifications, state that you are very well qualified for the position you've been interviewed for.

43: How do you propose to compensate for your lack of experience?
Answer:

First, if you have experience that the interviewer does not know about, bring that up: Then, point out (if true) that you are a hard working quick learner.

44: What qualities do you look for in a boss?
Answer:
Be generic and positive. Safe qualities are knowledgeable, a sense of humor, fair, loyal to subordinates and holder of high standards. All bosses think they have these traits.

45: Tell me about a time when you helped resolve a dispute between others.
Answer:
Pick a specific incident. Concentrate on your problem solving technique and not the dispute you settled.

46: What position do you prefer on a team working on a project?
Answer:
Be honest. If you are comfortable in different roles, point that out.

47: Describe your work ethic.
Answer:
Emphasize benefits to the organization. Things like, determination to get the job done and work hard but enjoy your work are good.

48: What has been your biggest professional disappointment?
Answer:
Be sure that you refer to something that was beyond your control. Show acceptance and no negative feelings.

49: Tell me about the most fun you have had on the job.
Answer:
Talk about having fun by accomplishing something for the organization.

50: What would you do for us? (What can you do for us that someone else can't?)
Answer:
a) Relate past experiences that represent success in Working for your previous employer.

b) Talk about your fresh perspective and the relevant experience you can bring to the company.
c) Highlight your track record of providing creative, Workable solutions.

51: Do you have any questions for me?
Answer:
Always have some questions prepared. Questions prepared where you will be an asset to the organization are good. How soon will I be able to be productive? What type of projects will I be able to assist on?

And Finally Good Luck!

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INDEX

Linux System Administrator Questions

General Questions

1: What is the difference between telnet and SSH?
2: When you need to edit a file by a system command (like *crontab -e*) how do you change the default editor that the system opens the file with to nano?
3: While using X, you encounter issues and cannot quit the X server, how can you force it to restart?
4: What would be the result of the key combination *ALT+9* then pressing m?
5: Which TCP ports do you need to keep open for FTP, SSH, SMTP, POP3, HTTP and HTTPS respectively?
6: What is the difference between the commands *ping* and *ping6?*
7: What does an open mail relay server means?

General Tools

8: You want to find all of the ".tmp" files in /home/* and delete them, how can you do it in a command?
9: How can you add an "auto correction" that will automatically fix "cd /homr" to "cd /home"?
10: How do you get additional information about a command - for example get information about *mail*?
11: You are running a crontab command and doesn't want the command to send an output to the crontab service, how can you handle it?
12: How can you list the arp cache table of the current machine?
13: How can you eject your cdrom drive from the console?
14: You see a process "./myApplication" with PID 44556, how can you know where was the file executed from?
15: You are doing an installation and want to record your commands and outputs for later review, how can you do that?
16: How can you get a view of the calendar of January 2004 on a Linux console?
17: You have 100 .txt files in a directory, you want to know in which file you have the string "Error Found", how can you do it?

18: What command is used to get the IP address(es) of the domain name Google.com in Linux?
19: What will be the outcome of the following command - touch -m myFile?
20: Given the directory “myImportantFiles” how can you create a tar file “myImportantTar.tar” containing this folder?
21: How can you know, without checking the logs, which Kernel version is currently loaded to the system?
22: What is the equivalent of “Norton commander” or “Windows Commander” for Linux console?
23: How can you change a password of a different user (john), when you have root access?
24: How do you make sure that your computer date & time are always aligned?
25: You have a tar file (myFile.tar), how do you convert it to a gzip file on best compression?
26: How can you disable eth1 during runtime?
27: How can you get the current username that you are logged in with?
28: Using the apt-get application, how can you install gcc compiler?
29: How do you run the internal “remote-desktop” VNC application on Linux?
30: How can you find all lines *starting* with the word “Error” in the log file “mylog.log”, with a single command?
31: You have a file that you want to randomize its lines and create permutations of it for distinctive file list, how can you create a permutation of the file “myfile” into “mynewfile”?
32: You have moved a file from one server to another, but you are not sure that the file has been perfectly moved, how can you verify that the file has not been corrupted?
33: How would you copy the file “file.txt” owned by root using secure ftp from 10.1.1.1 on /root/ to your local folder in one command?
34: How will you change all the ownership of /home/user1 to user2 (recursively)?
35: How can you check how long is the system running since the last restart and the load average on it?
36: How can you check what processes a specified user (tom) is currently running?
37: How can you see all the running processes at the system and their resources use on a live auto-refreshing view?

38: What is the tool provided with gzip for decompression?
39: You are waiting for a file to finish upload (newFile.tar.gz) by a user to your directory and you know that the file size is 100M - how can you sample the file every 5 seconds to see if it was changed?
40: How would you see the contents of a gzip compressed contents without decompressing it first?
41: You have found a command on /bin/ that you don't know what it does, and you want a brief explanation about it, what do you do in order to find it?
42: What is the difference between *locate* and *slocate*?
43: What does the command *locate* expecting in order to provide successful results?
44: How can you search for the word "FindMe" in all of the ".txt" files in the current directory, recursively?
45: How can you send a message "Hello everyone" to everyone who is currently connected to the system?
46: Create a crontab that will run once a day at 3am and write the output of ls into /tmp/ls_result (truncate the file) ?
47: How do you create a symbolic link between /bin/runme to the new file /bin/runmetoo?

Advanced Tools

48: How can you make the file untouchable.txt to be immutable (un-alterable) so it will not be able to be changed or deleted by any user including root?
49: How can you run a PHP statement from the command line without creating a file?
50: How can you find the usage time of all the users on the machine (individually)?
51: How can you use variables as a part of your command? For example, set pipeline="|" and run *ps aux $pipeline grep root*
52: You want to create network statistics and graphs for your server, which tool would you use (most common)?
53: How can you send the BIOS a query message directly from the command line?
54: How can you manipulate partitions on a Linux system?
55: What is the result of the *lsmod* command?
56: How can you find your hardware configuration and description of the local machine?
57: How can you mount an NTFS partition on Linux?

58: What is the LD_LIBRARY_PATH environment variable?
59: How can you get the Access, Modify and Change date & time of the file “myFile”?
60: You want to save the mysql DB “mySQLDB” to a file “mySQLDB.sql”, how can you do it?
61: How can you prioritize system resources per *running process*?
62: How can you get the NS records of the domain “google.com” from the terminal command line?
63: You are running a tail -f on /var/log/messages file and looking for specific error, you want only the log that you saw to be printed into a local file “found.log” in order to search it later on a smaller file, how can you do it?
64: How do you check all the services that start/stop on each runlevel?
65: How can you allow a user to run superuser commands without knowing the root password?
66: How can you check which libraries are being used and needed for the binary file /bin/vi?
67: You want to install a new PERL module, what is the correct way to do it?
68: How can you enable jumbo-frame (9000) on a network interface eth0 in Linux?
69: Explain the following command: “*iptables -A OUTPUT -p icmp --icmp-type echo-request -j DROP*”
70: What does the *wine* application does on Linux system?
71: What is the Nagios system?
72: You need to generate a random number in the console, how can you do it without any random application?
73: You have a very secret file “TOP-SECRET.txt”, which needs to be deleted “for good”, how can you do it?
74: You are in a directory /home/user/downloaded/ and you want to share the files in this directory quickly over web without configuring an *httpd* server, how can you do it with python?
75: While running a command interactively, how do you send the command into background?
76: How can you compile a regular c application “myprog.c” and create a binary “myprog”?

Files Manipulation

77: You have an application that creates a log file“myApplication.log” that grows 1GB a day. You want to save only the last 3 days, on 100MB file each, how would you do that?
78: Given a file unformattedLetters.txt containing text in the form of “tHiS iS AN UnForMatteD tEXt”, how can you change in one command all the letters to lower case and output it to formattedLetters.txt?
79: How would you connect the files first.txt, second.txt and third.txt to one file all.txt?
80: You have a file (myfriends.txt) with names list, and you want to know how many unique names you have in that file, how can you do that?
81: You want to run a binary file, you have permissions to it, but it gives you “Access Denied”, what do you need to do?
82: Given a CSV file “a.csv” , how can you get the first column, of all the rows, into a new file called “result.log”?
83: You want to create files 1-100.log with the same text “Hello This is a test” in it, how can you do it?
84: You have an xml file (myXML.xml) which is all in one line, how do you convert the xml into a well-formatted XML?
85: Given the text file “MyLog.log”, which is written backwards, how can you invert the order of the lines?
86: How can you find and display *only the differences* between myconfig.new and myconfig.old?

Linux Understanding

87: How can you set KDE to be the default desktop manager?
88: When will you encounter a kernel panic issue?
89: what is an intrid image?
90: What is the minimum partitions do you need for a Linux installation?
91: What is the recommended size for the swap partition to be (minimum size) if you have 2GB RAM?
92: How can you add special commands to run after the init process has been completed?
93: Explain the following statement: *ls -lhrS | grep -i $USER | tail -3 | awk '{ print $5, $9; }'*
94: You want to set global environment and startup programs for all users, where can you set it?

95: In which configuration can you set the user prompt automatically to all bash users to look like [user@host][~]#?
96: What would the command “ls -d /root” as a regular user give you as an output?
97: What would be the result of the command “#reboot now”?
98: What would be the result of the command *“!l*” after running “*ls*” then “*id*” then “*who”*?
99: what would be the result of *type for*?
100: How can you identify, using environment variables, which shell are you currently using?
101: What is the difference between “su root” and “su - root”?
102: What is the difference between the commands “cd /tmp && pwd” and “(cd /tmp && pwd)”?
103: What are the most common steps in the procedure of installing a source tarball?
104: You are working on a demo site “mydomain.cool” which the domain does not exist, but it is configured on your local server apache that runs on the IP 10.10.10.1, how can you change it to work from your local browser?
105: In bash shell, how can you change your command prompt of root to look like [User][Host]{path} #
106: How can you delete a file called “--test”?
107: You want to change the Message Of The Day, How can you do it?
108: What is the minimum memory required in order to run XFree86
109: How do you create a new file system using a command?
110: Which are the valid wildcards in Linux?
111: How would you send a command into the background?
112: How do you redirect a command STDERR response into STDOUT
113: What is the difference between `*echo Hello > tmp.log*` and `*echo Hello >> tmp.log*`?
114: What is the limit of a Linux file name?
115: How do you send a SIGKILL to a process?
116: What is a Linux ISO?
117: Given the text “fileone,filetwo,filethree,filefour”, you need to delete all of the .sh files with those names (fileone.sh filetwo.sh…), how can you do it with brace expansion?
118: You have a scripts directory called /scripts/ and you want to add it temporarily to your executable path, how can you do that?

119: If I have configured the parameter TTL in my domain configuration file (named) to 14400, what does it mean?
120: You want to encrypt and password-protect a password file “mysecret.txt”, how can you do it with GPG and then decrypt it to view the contents?
121: You want to traceroute a remote server with an interactive interface and fast resolution (more than traceroute) how can you do it?

Server Administration

122: How can you find which of the users (residing in /home/) are using the most HD space?
123: How can you change your server timezone to a Europe/France timezone?
124: How do you change the user tom’s login shell to /bin/sh?
125: What is the difference between “kill <PID>” and “kill -9 <PID>”?
126: How do you add a virtual network interface on eth0 with the ip 10.10.10.1 on class C?
127: How can you define the log level of the messages that are written to /var/log/messages?
128: How can you turn your Linux server into a router?
129: What is the difference between a swap file and a swap partition?
130: Given installed RPM file “xinetd-2.3.14-10.el5” how can you know which files on the system belongs to this rpm?
131: Given a local file /usr/bin/pstree” on the HD, how can you identify if it came from an RPM?
132: What is the LVM and where can you find its configuration?
133: How can you get the status of all the services configured on your Linux machine?
134: How can you change the system library paths?
135: How can you disable all ping responses from the Linux machine?
136: You want to force the user john to change his password after 90 days, how can you do that?
137: How can you list all of the USB buses and devices that are connected?
138: Your hardware clock and your system clock are not the same, how can you sync between your system clock and the hardware clock?

139: How can you check the status of bad blocks on your hard drive?
140: How do you show all the current mounts and their stats?
141: How can you check the memory and paging status (free, used, cached)?
142: How can you get cpu and harddrive activities average report?
143: If you want to get statistical information about your server for the previous days, how can you do that?
144: How can you get CPU statistics, per CPU or Core?
145: How can you find which of the directories (top level) on the current directory is the heaviest (kb).
146: Where does the Linux system save its passwords?
147: You're using a Linux system and you're not sure which distribution you're using right now, how do you check it.
148: How can you check how many ports are currently being used (listening) on the local machine, and which application is listening on each port?
149: You've forget the root password, How can you login to your system in order to change it?
150: How can you change the behavior of the Linux DNS search to first look for DNS and only then in the hosts files?
151: How can you find, who was logged in to the system, the dates, and the amount of time they were logged in?
152: How can you find out which process is using the port 80 on your Linux?
153: Where can you find the following configuration: "%admin ALL=(ALL) ALL"
154: What is the major change between the ext2 and ext3 file systems?
155: How can you manipulate incoming and outgoing packets in Linux?
156: On a default Linux installation, your root UMASK value is 022 - what does it mean?
157: Where can you find information about your Linux server CPU?
158: If you want to trace (attach to) a process and trace its system calls and signals (file/memory access), how can you do it?
159: How can you dump the server boot messages into a local log file "myboot.log"
160: Someone is trying to hack your system (valid and invalid users), write a command that will show you failed ssh logins to the system and its date & ip as "Jul 8 12:00:00 username 192.168.10.10"

161: You have a DNS server and you have updated your configuration - how do you tell the named to reload the configuration with the DNS admin tool?
162: What is the difference between the “crontab” and the “at” functionality?
163: How can you add a file system (partition) that will be mounted automatically when the Linux is booting?
164: You have decided to add 80.161.161.1 to your DNS servers (for DNS resolving), which file should be edited and what should be added to this file?
165: How can you set the eth0 interface to auto-negotiation on?
166: How can you display your server routing table (IP view)?
167: You want to run the application *heavyapplication* with a low priority so it will not take all the resources from the system and run at the lowest priority there is, how can you do it during the application start?
168: How can you change the default init runlevel to 5?
169: You have an application crashes, but there is no core file created, what should you do?
170: The time is 1:00 PM, you have upgraded the kernel and need to reboot, but you won’t be here at night, how can you tell the system to shutdown at 1AM?
171: How do you check the *seLinux* status?

Services & Daemons

172: What is the purpose of an exim service on a server?
173: What solution will you use for a reverse proxy in Linux?
174: What is the purpose of a NIS server?
175: If you would like to use the apache tools in order to benchmark your apache service that holds www.google.com using 5 concurrent requests over 20 overall requests, what tool would you use and how?
176: What does each of the error codes 200,300,400 and 500 in apache means?
177: Create a new Apache VirtualHost configuration for the host www.google.com that sits at /home/google/public_html/ and default logs on /var/log/httpd/
178: How do you stop the Apache HTTPD service, through its control script?
179: How can you enable, on a default Linux installation, root remote access through SSH?

180: What is the difference between "*apachectl restart"* and "*apachectl graceful*"?
181: How can you add the service sshd to start when starting at INIT level 3?
182: How can you dump all the packets of http traffic into http.out?
183: You want to check a slow download from a remote server to check long download sessions, how can you do it?
184: How can you check the mail queue of an exim mail server?
185:How do you configure the nfs exports/mounts of your machine?

Scripts

186: How can you create a script that will wait for specific output and will act according to it? - for instance, wait for "username:" before sending the username.
187: You want to add logger to your script, how can you send logging messages to the /var/log/messages for your script "MyCoolScript"?
188: Using perl, write a command that will print all the IPs, Bcasts and Masks configured on the server line by line.
189: Write a shell script that checks if a file (as an argument) has write permissions - if it's available print "write access approved" else print "no write access".
190: You have a bash script that does not produce the expected result, how can you debug it?
191: You have a regular user access to a server, with no root permissions, but you need to create a script that requires root permissions to run - how can you manipulate the system to think that you have root permissions, without a real superuser access?
192: Write a script that receives one parameters (file name) and checks if the file exists or not - If it does, print "Roger that!" else, print "Huston we've got a problem!"
193: Write a script that checks if a file, given as an argument, has more than 10 lines or not, if it does - print "Over 10", else print "Less than 10"
194: You want to create a backup script called "backupMyFiles" and it will run every hour, how do you make sure that your script is not already running when you run the script - write a short script that will handle this issue and exit with the message "Previous <command> is still running" in case the script is still in the background.
195: create a Fibonacci function (Fn=Fn-1+Fn-2) using awk (until F20).

196: Write a script that will go over all the users on the system and will write the last login date of the user - if we don't have information about the last login, write "No data for <username>"
197: How can you check what are the most common commands that you have used in the Linux shell?
198: Write a script that goes to http://www.whatismyip.org/ and writes "Your IP is: <Result from site>"
199: Create a small calculator in bash script which will have an internal function "dosomething" that will receive a math function as an input - *mycalc* 4+4*4.
200: Create a script called KillUserProcs that will get a username as an input and will kill all his processes?

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HR Questions

1: Tell me about yourself.
2: Why did you leave your last job?
3: What experience do you have in this field?
4: Do you consider yourself successful?
5: What do co-workers say about you?
6: What do you know about this organization?
7: What have you done to improve your knowledge in the last year?
8: Are you applying for other jobs?
9: Why do you want to work for this organization?
10: Do you know anyone who works for us?
11: What kind of salary do you need?
12: Are you a team player?
13: How long would you expect to work for us if hired?
14: Have you ever had to fire anyone? How did you feel about that?
15: What is your philosophy towards work?
16: If you had enough money to retire right now, would you?
17: Have you ever been asked to leave a position?
18: Explain how you would be an asset to this organization.
19: Why should we hire you?
20: Tell me about a suggestion you have made.
21: What irritates you about co-workers?
22: What is your greatest strength?
23: Tell me about your dream job or what are you looking for in a job?
24: Why do you think you would do well at this job?
25: What do you find the most attractive about this position? (Least attractive?)
26: What kind of person would you refuse to work with?
27: What is more important to you: the money or the work?
28: What would your previous supervisor say your strongest point is?
29: Tell me about a problem you had with a supervisor.
30: What has disappointed you about a job?
31: Tell me about your ability to work under pressure.
32: Do your skills match this job or another job more closely?
33: What motivates you to do your best on the job?
34: Are you willing to work overtime? Nights? Weekends?
35: How would you know you were successful on this job?
36: Would you be willing to relocate if required?

37: Are you willing to put the interests of the organization ahead of your own?
38: Describe your management style.
39: What have you learned from mistakes on the job?
40: Do you have any blind spots?
41: If you were hiring a person for this job, what would you look for?
42: Do you think you are overqualified for this position?
43: How do you propose to compensate for your lack of experience?
44: What qualities do you look for in a boss?
45: Tell me about a time when you helped resolve a dispute between others.
46: What position do you prefer on a team working on a project?
47: Describe your work ethic.
48: What has been your biggest professional disappointment?
49: Tell me about the most fun you have had on the job.
50: What would you do for us? (What can you do for us that someone else can't?)
51: Do you have any questions for me?

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Some of the following titles might also be handy:

1. Oracle / PLSQL Interview Questions
2. ASP.NET Interview Questions
3. VB.NET Interview Questions
4. .NET Framework Interview Questions
5. C#.NET Interview Questions
6. OOPS Interview Questions
7. Core Java Interview Questions
8. JSP-Servlet Interview Questions
9. EJB (J2EE) Interview Questions
10. ADO.NET Interview Questions
11. SQL Server Interview Questions
12. C & C++ Interview Questions
13. 200 (HR) Interview Questions
14. JavaScript Interview Questions
15. JAVA/J2EE Interview Questions
16. Oracle DBA Interview Questions
17. XML Interview Questions
18. UNIX Shell Programming Interview Questions
19. PHP Interview Questions
20. J2ME Interview Questions
21. Hardware and Networking Interview Questions
22. Data Structures & Algorithms Interview Questions
23. Oracle E-Business Suite Interview Questions
24. UML Interview Questions
25. HTML, XHTML & CSS Interview Questions
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