Linux Interview Questions

1. How would you check the current running processes on a Linux system?

To check the current running processes on a Linux system, there are several commands that can be used. The most common ones are:

- 'ps': This command provides a snapshot of the current processes
- 'top': This command gives a real-time, dynamic view of the running processes
- 'htop': An improved version of 'top' with a more user-friendly interface

2. How would you go about troubleshooting a slow-performing Linux server?

Troubleshooting a slow-performing Linux server involves a systematic approach to identify and resolve the underlying issues. A good answer should outline a step-by-step process, such as:

1. Check system resource usage (CPU, memory, disk I/O) using tools like 'top', 'htop', or 'iotop'
2. Examine system logs in '/var/log' for any error messages or warnings
3. Monitor network activity using 'netstat' or 'ss' to identify any unusual connections or high traffic
4. Use 'ps' to identify resource-intensive processes
5. Check disk space usage with 'df' and 'du' commands

Advanced candidates might mention additional tools like 'sar' for historical performance data or 'strace' for debugging specific processes.

3. What is a daemon in Linux, and can you give an example of a common daemon?

A daemon in Linux is a background process that runs continuously, typically handling requests for services or monitoring system events. Daemons are usually started at boot time and run without direct user interaction.

Key characteristics of daemons include:

- They often end with the letter 'd' in their name (e.g., sshd, httpd)
- They don't have a controlling terminal
- They run as child processes of the init process (PID 1)

Common examples of daemons include:

- sshd (Secure Shell Daemon)
- httpd (Apache Web Server Daemon)
- crond (Cron Job Scheduler Daemon)

7. How would you create a backup of a directory in Linux, and why is it important to do so regularly?

Creating backups in Linux is a crucial task for data protection and system recovery. A common method to create a backup of a directory is using the 'tar' command. For example:

```

tar -czvf backup.tar.gz /path/to/directory

```

This command creates a compressed archive of the specified directory.

8. What is the difference between creating a file in cat and in touch command on Linux?

$cat command creates a file and we can save some data inside the file but touch command by default will create a blank file.

9. I want to create a directory a1 and inside that a2 and inside that a3. Is it possible? If yes how?

Yes creating multiple directories is possible. In this scenario the below command works.

$mkdir –p a1/a2/a3

10. How can I check in which directory I am in?

Use PWD command to check which directory you are in.

11. List the Permission types in Linux Like Operating Systems?

In Linux Operating system 3 Major types of Permissions are available, these are Read, Write and Execute

12. List the User types in Linux Like Operating Systems?

In Linux Operating system 3 Major types of Users are available, these are Owner, Group Owner and Others

13. What is LVM in Linux Distributions?

LVM is used to create logical partitions and during run time we can resize particular partition without data loss.

14. What types of package Installation in REDHAT?

RPM = Redhat Package Manager YUM = Yellow Dog Updated Modifier

15. Tell me Linux Boot Sequence Flow?

BIOS → MBR → Boot Loader /GRUB→ Kernal → Runlevel.

16. What is SELinux in Linux Distributions?

It's one type of firewall in Linux To block particular service in a Protocol

17. Tell me File path of SELinux?

vi /etc/selinux/config

18. What is command to check selinux status?

getenforce

19. What is command Uninstall package in RHEL Linux?

yum remove packagename

20. What is command package re-install using YUM without ask Prompt in Linux?

yum reinstall packagename -y

21. What is a shell in redhat Linux?

Description of shell is huge, However commonly we explain it as the interpreter between the user and the machine.

22. How can I view hidden files in a redhat linux system?

Using "$ls –a" command I can view the hidden files of the system.

23. Describe the usage of rm –r* command in redhat Linux / unix?

$rm –r* will remove all the file entries in the current directory.

It is not advisable to use this command in real time production server environment. many files which are necessary to be accessed by other users and these files may require to use.

24. What is absolute path and relative path in Unix / redhat Linux?

Absolute path refers to the path starting from the root directory and the path continues with a sequence starting from root (#).

Whereas relative path is the current path.

25. How can I kill a process in Linux / Unix?

first use $PS –ef command and get the PID of the process you want to kill.

Then use kill -9 command to kill the process.

It's very important question for Troubleshooting.

26. How can I check the memory size of a linux/unix machine ?

Use Free –m or free –G command to check the memory size of a linux machine.

27. How to check disk utilization of a linux server?

Use du command to check the disk utilization.

$du

in advance you want to see a specify partition with all the information use $df -hT to know clear details about connected harddisk information with available space as well used space..

28. How to check the disk free of all the mount points in linux / Unix?

use df –h command,

it will show the disk free of linux machine.

29. Difference between $ and #?

"$" is the normal user which has limited access.

"#" is the root user which has full control of the user,it can restrict,replace and add the user.

30. Explain the difference between the mv and cp commands.

"mv" cmd is used to move the files whereas "cp" cmd is used to copy the files.To copy the directory "cp -r" is used.

31. What is the purpose of the chmod command, and how do you use it to change file permissions?

There are 3 types file permissions in the linux

a)READ ------- r (Indication)

b)WRITE ------- w (Indication)

c)EXECUTE ------ x (Indication)

There are 3 types of users in the linux

1)OWNER

2)GROUP

3)OTHERS

There are nine letters in any file

```
 ---          ---          ---
OWNER   GROUP   OTHERS
```

To change permission of any file there are 2 ways

1) Numerical Notation

2) Alphabetical Notation

1) Numerical Notation:-

r ------ 4

w ------ 2

x ------ 1

ex:- If we want to give permission of r,w,x then we've to add all the numbers

chmod 7 6 4 <file_name>

rwx rw r

7 ----- rwx

6 ----- rw

5 ----- rx

4 ----- r

3 ----- wx

2 ----- w

1 ----- x

0 ----- no permission

2)Alphabetical Notation

owner ------- u

group ------- g

others ------ o

+ ------- to add the permission

- ------- to remove the permission

ex:- chmod u+x <file_name>

chmod u-w <file_name>

32. What is the difference between amazon linux and ubuntu linux?

Amazon Linux: Amazon Linux is well-suited for AWS-specific workloads and applications that need to run on AWS infrastructure. It is often used for EC2 instances and AWS Elastic Beanstalk.

Ubuntu Linux: Ubuntu is a versatile distribution suitable for a wide range of use cases, including server deployments, desktop environments, development, and cloud infrastructure. It is commonly used in both cloud and on-premises environments.

Amazon linux supports "yum" package manager for package installation and management and it is also supports "DNF yum" whereas Ubuntu linux supports "apt" or "apt-get" for package management.

33. What is the difference between wget and curl?

"wget" and "curl" can be used for downloading files, "wget" is simpler to use for basic file downloads and is well-suited for non-interactive downloading. On the other hand, "curl" is a more versatile tool that can handle a wide range of network-related tasks, including downloading files, making API requests, and testing network services. Your choice between the two depends on your specific use case and requirements.

34. How do you add a new user to a Linux system?

We can add user in linux by using this cmd "sudo useradd <user_name>"
after creating we've to set passcode for it "sudo passwd <user_name>".

35. What is the difference between useradd and adduser?

Useradd: Useradd has full permission of linux like create,delete,restrict etc that too without an passcode.
adduser:adduser is created for a particular role which have limited permissions as compared to useradd.
ex:- If we are creating sonarqube adduser so it'll do operations only related to sonarqube.

36. What is Shell in Linux?

In Linux, five Shells are used:

- **csh (C Shell):** This shell offers job control and spell checking and is similar to C syntax.]
- **ksh (Korn Shell):** A high-level shell for programming languages.
- **ssh (Z Shell):** This shell has a unique nature, such as closing comments, startup files, file name generating, and observing logout/login watching.

- **bash (Bourne Again Shell):** This is the default shell for Linux.
- **Fish (Friendly Interactive Shell):** This shell provides auto-suggestion, web-based configuration, etc.

37. What is Swap Space?

Linux uses swap space to expand RAM. Linux uses this extra space to hold concurrently running programs temporarily.

38. What is the sed command used for in Linux?

The sed command is used to perform text transformations on files. It can search for specific patterns and replace them with desired text.

For Example:

sed `s/foo/bar/g` file.txt

39. What is sudo in Linux?

The word “sudo” is the short form of “Superuser Do” that allows you to run the command with system privileges. With this command, you can get the system’s administrative access to perform various tasks. The sudo command requires a password before the execution to verify the user’s authorization.

40. What is the purpose of the SSH protocol in Linux, and how do you securely connect to a remote server using SSH?

The Secure Shell (SSH) is a protocol in Linux which is used to establish a secure encrypted connection between a local and remote machine. It allows to securely access and manage remote servers. If we want to connect to a remote server using SSH. We can use the following command.

ssh username@remote_ip

41. How do you check the contents of a file without opening it in Linux?

In Linux we can use the `cat` command to view the content of a file without opening it in an editor form.

For example: If we want to check content of a file with file_name = `geeks.txt`

cat filename.txt

42. What is the purpose of the sudoers file in Linux, and how do you configure sudo access for users?

The sudoers file in Linux controls the sudo access permissions for users. It determines which users are allowed to run commands with superuser (root) privileges. To configure sudo access, you can edit the sudoers file using the visudo command.

For example:

sudo visudo

43. What is the purpose of the ping command in Linux, and how do you test network connectivity to a remote host?

Ping command is used to test the network connectively between the local and remote hosts. It basically sends an ICMP echo request packet to the remote host and waits for the corresponding echo reply packet.

For example: If we want to check the connectivity to a remote host, we use the following command.

ping remote_host_ip

44. What is the purpose of the netstat command in Linux, and how do you view network connections and listening ports?

The netstat command in Linux is used to display active network connections, routing tables, and listening ports. To view network connections and listening ports, use the netstat command with appropriate options.

For example: If we want to display all listening TCP ports, we can use the following command.

netstat -tuln

45. How do you set up a static IP address in Linux using the command-line interface?

To set up a static IP address in Linux using the command-line interface, you need to modify the network configuration file. The location and name of the file may vary depending on the Linux distribution, but commonly it is /etc/network/interfaces. Open the file with a text editor and modify the configuration to set a static IP address, subnet mask, gateway, and DNS servers.

For example:

iface eth0 inet static

address 192.168.1.100

netmask 255.255.255.0

gateway 192.168.1.1

dns-nameservers 8.8.8.8 8.8.4.4

46. What is Hard Link?

In Linux, Hard links can be defined as another name for an already existing file. For each file, we can generate an unlimited number of hard links. They have the ability to generate links for other hard connections. We can use the `Is-I` command to find out the total number of hard links in a file. And we can create Hard links using the following command:

$ ln [original filename] [link name]

47. What is Soft Link?

Soft link is also known as a symbolic link. Soft links are files that, in most cases, lead to another file. It just links to another entry somewhere in the file system and does not include any data in the destination file. These kinds of connections can be utilized across several file systems. The following command can be used to create soft links:

$ ln -s [original filename] [link name]

48. What are daemons in Linux?

Daemons are background processes that start at system boot and keep running to perform system-critical tasks. Some examples are httpd daemon, which runs the Apache web server, and sshd daemon, which handles SSH remote connections. Daemons have no controlling terminal and run in the background without user intervention. They can be controlled using init scripts to start, stop, and check status.

49. What are the different types of modes in VI editor?

The VI editor (Visual Editor) is a basic text editor that appears in most Linux distributions. The following are the main varieties of modes usable in the VI editor:

Command Mode/Regular Mode: The default mode for vi editors is Command Mode/Regular Mode. It is typically used to view and write instructions that perform special or unique vi tasks.

Insertion Mode/Edit Mode: You may use this Insertion mode to edit text or insert text into a file. You can also delete the text.

Ex Mode/Replacement Mode: Ex mode is commonly used for file saving and command execution. We can overwrite the text in this mode.

50. In Linux, how can I figure out where a file is stored?

To find the path to the file, use the locate command. If you wish to locate the locations of a file named sample.txt, use the following command:

$ locate sample.txt