**Linux Interview Questions**

**Q. How can I check which processes are running in my Linux machine?**

A. To check process which are running in machine, use two commands.

(a) TOP and (b) PS

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

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

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

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

$mkdir –p a1/a2/a3

**Q. How can I check in which directory I am in ?**

A. Use PWD command to check which directory you are in.

**Q. How can I list the directories and the files ?**

A. Using ls command.

I can view the directories and files of the system.

**Q. What are the components of the Linux system?**

A. There are three primary components of the Linux system which are explained below.

Kernel: The kernel is the most important component of Linux. It is in charge of the operating system’s primary functions. It is made up of a number of modules that interface directly with the hardware. Kernel offers the necessary abstraction for system or application programs to mask low-level hardware information.

System libraries: They are specialized functions or programs that allow application programs or system utilities to access Kernel capabilities. These libraries implement the majority of the operating system’s functionality and do not require kernel module code access permissions.

System Utility: Programs in the System Utility category are in charge of performing specialized, individual-level activities. They are more dependable and also provide users control over the computer.

**Q. Suppose, you wish to print a file ‘draft’ with 60 lines on a page. What command would you use?**

A. pr -l60 draft

**Q. How to check memory stats and CPU stats as a Linux Admin?**

A. Using the free and vmstat commands, we can display the physical and virtual memory statistics, respectively.

**Q. Explain the features of the Linux system?**

A. The key features of the Linux system are as follows:

Linux is a community-based major project which is freely available open-source code. Multiple teams collaborate to improve the capabilities of this operating system, which is always growing.

It offers a prominent feature which is that it is a multiuser system, which implies that several users may share system resources such as memory, ram, and application programs.

Portability refers to the capacity of software to run on a variety of hardware platforms in the same way. The Linux kernel and application software may be installed on virtually any hardware platform.

Linux is a multiprogramming system, which means it can run many programs at the same time.

Linux has a Hierarchical File System (HFS), which offers a standardized structure for storing system and user data files.

Linux contains a custom interpreter application that allows users to run operating system program commands and instructions.

User security is provided by Linux through authentication mechanisms such as password protection, limited access to particular files, and data encryption.

**Q. Why is Linux regarded as a more secure operating system than other operating systems?**

A. Linux has become more popular in the technology industry in terms of security. There are several reasons why Linux is more secure than other operating systems.

On Linux, only a few people have access to the system. As a result, the virus cannot infect the entire system but it may affect only a few files.

Before opening the files, Linux users must first complete the tasks, so that they can protect their systems against flaws.

The Linux operating system includes a variety of working environments, including Linux Mint, Debian, Arch, and others, all of which include virus protection.

It keeps a log history so that it may quickly see the specifics of the system files afterward.

Iptables is a Linux feature that examines the system’s security circle.

As Linux users are comparatively fewer in number as compared to other operating systems, security will be enhanced.

**Q. Explain various file permissions in Linux?**

A. In Linux, each file and directory has three categories of owners which are User, Group, and Others. For all three owners, there are three sorts of permissions defined as mentioned below:

Read: This read permission allows you to open the file, read it, and list the content of the directory.

Write: This permission gives you the ability to change the contents of a file as well as add, remove, and rename files in directories.

Execute: The file in the directory can be accessed and run by the user. The execute permission must be established before a file may be run.

**Q. Which command is used to check the number of files, disk space, and each user’s defined quota?**

A. The repquota command is used to check the status of a user’s defined quota, along with the disk space and the number of files used.

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

A. 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.

**Q. Mention various Linux directory commands**

A. pwd: pwd refers to “print working directory”. We use this command to display the path of the current working directory. The syntax of this command is $ pwd.

cd: cd refers to “change directory”. We use this command to change the present working directory to the specifically required directory. The syntax of this command is $ cd <path to new directory>.

Is: ls refers to “list”. We use this command to view the full list of files and directories in the present working directory. The syntax of this command is $ ls.

mkdir: mkdir refers to “make directory”. We use this command to create directories in Linux. The syntax of this command is $ mkdir <name (and path if required) of new directory>.

rmdir: rmdir refers to “remove directory”. We use this command to remove or delete any directory on the command line. The syntax of this command is $ rmdir <name (and path if required) of directory>.

**Q. What daemon is used for scheduling commands?**

A. The crontab command is used for scheduling commands to run at a later time.

crontab [ -u user ] file

crontab [ -u user ] { -l | -r | -e }

Options:

-l: Displays the current crontab entries

-r: Removes the current crontab

-e: Edits the current crontab using the editor specified by the VISUAL or EDITOR environment variables

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

A. 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

**Q. In Linux, how do you stop a running process?**

A. Every process has its own identifier. We must first locate the process id in order to terminate it. The “ps” command displays a list of all currently active processes, along with their ids. The “kill” command is then used to end the process.

**Q. What are the process states in Linux?**

A. The process states are as follows:

Ready: The process is created and is ready to run

Running: The process is being executed

Blocked or wait: Process is waiting for input from the user

Terminated or Completed: Process completed execution, or was terminated by the Operating System

Zombie: Process terminated, but the information still exists in the process table.

**Q. Explain grep command.**

A. Grep stands for Global Regular Expression Print. The grep command is used to search for a text in a file by pattern matching based on regular expression.

Syntax: grep [options] pattern [files]

Example:

$ grep -c "linux" interview.txt

This command will print the count of the word “linux” in the “interview.txt” file.

**Q. Explain Process Management System Calls in Linux**

A. The System Calls to manage the process are:

fork () : Used to create a new process

exec() : Execute a new program

wait() : Wait until the process finishes execution

exit() : Exit from the process

And the System Calls used to get Process ID are:

getpid():- get the unique process id of the process

getppid():- get the parent process unique id

**Q. Why is the tar command used?**

A. The tar command is used to extract or create an archived file.

Suppose you want to extract all the files from the archive named sample.tar.gz, then the command will be:

$ tar -xvzf sample.tar.gz

Suppose you want to create an archive of all the files stored in the path /home/linux/, then the command will be:

$ tar -cvzf filename.tar.gz

where c: create archive, x: extract, v: verbose, f: file

**Q. How to copy a file in Linux?**

A. You can use the cp command to copy a file in Linux. The general syntax is:

$ cp <source> <destination>

Suppose you want to copy a file named questions.txt from the directory /new/linux to /linux/interview, then the command will be:

$ cp questions.txt /new/linux /linux/interview

**Q. How to rename a file in Linux?**

A. There is no specific command to rename a file in Linux. But you use the copy or move command to rename the file.

Using the Move command

$ mv <oldname> <newname>

**Q. How to find the difference in two configuration files?**

A. You can use the diff command for this:

$ diff abc.conf xyz.conf

**Q. How would you create a text file without opening it?**

A. The touch command can be used to create a text file without opening it. The touch command will create an empty file. The syntax is as follows:

$ touch <filename>

Suppose you want to create a file named sample.txt, then the command would be:

$ touch sample.txt

**Q. How would you delete a directory in Linux?**

A. There are two commands that can be used to delete a directory in Linux.

rmdir

$ rmdir <directory name>

rm -rf

$ rm -rf <directory name>

Note: The command rm -rf should be used carefully because it will delete all the data without any warnings.

**Q. What is the export command used for?**

A. The export command is used to set and reload the environment variables. For example, if you want to set the Java path, then the command would be:

$ export JAVA\_HOME = /home/user/Java/bin