**Linux Interview questions**

1 What is the difference between a process and a thread in Linux?

**Difference Between a Process and a Thread in Linux:**

* **Process:** A program in execution, with its own memory space. It can run independently.
* **Thread:** A smaller unit of a process that shares the process's memory but runs independently within the process.

2 What is the difference between a hard link and a soft link in Linux?

**Difference Between a Hard Link and a Soft Link in Linux:**

* **Hard Link:** Points directly to the inode of a file, creating a duplicate file name. Deleting one hard link doesn't delete the original file.
* **Soft Link (Symbolic Link):** Acts as a shortcut or pointer to another file, storing the file path. If the original file is deleted, the soft link becomes broken.

3 How can you check the memory usage of a Linux system?

**Check the Memory Usage of a Linux System:**

* Command: free -h or top

4 How do you find the IP address of a Linux system?

**Find the IP Address of a Linux System:**

* Command: hostname -I or ifconfig

5 What is the purpose of the "chmod" command in Linux?

**Purpose of the "chmod" Command:**

* chmod changes the file permissions for the owner, group, and others, using symbolic or numeric modes.

6 What is the purpose of the "grep" command?

**Purpose of the "grep" Command:**

* grep is used to search for patterns within files or output. It supports regular expressions.

7 How do you change the password for a user in Linux?

**Change the Password for a User in Linux:**

* Command: passwd username

8 What is the purpose of the "cron" daemon in Linux?

**Purpose of the "cron" Daemon:**

* cron is used to schedule tasks to run automatically at specific intervals.

9 How do you schedule a cron job in Linux?

### ****Schedule a Cron Job in Linux:****

* Command: crontab -e and add a job in the format minute hour day month day\_of\_week command.

10 Diskspace full issue?

### ****Disk Space Full Issue:****

* Use df -h to check disk space. Delete unnecessary files, clear log files, or increase the disk size.

11 Running out of memory?

### ****Running Out of Memory:****

* Check memory usage with free -h or top. You may need to kill unnecessary processes or increase swap space.

12 How do you troubleshoot high CPU usage on a Linux server?

### ****Troubleshoot High CPU Usage on a Linux Server:****

* Use top or htop to monitor CPU usage. Identify the processes consuming the most CPU and take action, like terminating or optimizing them.

13 Describe the boot process of a Linux system?

### ****Describe the Boot Process of a Linux System:****

* **Steps:**
  1. BIOS/UEFI initialization
  2. Bootloader (GRUB) loads
  3. Kernel initialization
  4. Init/systemd starts services
  5. Runlevel reached and login prompt displayed

14 You need to transfer a large file securely between two Linux servers. What tools or protocols would you use, and why?

### ****Securely Transfer a Large File Between Linux Servers:****

* Use scp (secure copy) or rsync over SSH for secure transfer.

15 A user accidentally deleted an important file, and you need to recover it from the backup. Explain the steps you would take to restore the file ?

### ****Recover a Deleted File from Backup:****

* Steps:
  1. Identify the backup system (local, remote, cloud).
  2. Use backup tools like rsync or copy the file from backup location.
  3. Restore the file to its original location.

16 A user reports that they are unable to connect to a remote Linux server using SSH. How would you troubleshoot and resolve this connectivity issue?

### ****Troubleshoot SSH Connectivity Issues:****

* Check SSH service status: systemctl status sshd.
* Verify firewall and port settings.
* Ensure the correct IP address and credentials are used.

17 You need to find all files larger than 100MB in the /home directory and its subdirectories. How would you accomplish this task?

### ****Find Files Larger than 100MB in /home Directory:****

* Command: find /home -type f -size +100M

18 What is inode?

### ****What is Inode:****

* An inode is a data structure in Linux that stores metadata about files, such as permissions, ownership, and timestamps.

19 What is booting process in Linux?

### ****Booting Process in Linux:****

* Same as answer 13: Involves BIOS/UEFI, bootloader, kernel loading, and system initialization via init/systemd.

20 How do you clear the server if you continuously get Space not available

### ****Clear the Server if Space is Not Available:****

* Identify large files using du -h, clean up log files, or increase the disk space.

21 What types of OS patching’s you have done

### ****Types of OS Patching Done:****

* **Security patches**, **kernel updates**, and **package updates** using yum, apt, or custom patch management systems.

22 What are the Linux commands you use daily?

### ****Linux Commands Used Daily:****

* Common commands include ls, cd, cat, chmod, grep, find, top, ps, df, and du.

23 Linux file permissions types

### ****Linux File Permissions Types:****

* **Read (r)**, **Write (w)**, **Execute (x)** for user, group, and others.
* Permissions are displayed as a combination (e.g., rwxr-xr--).