1.In Linux FHS (Filesystem Hierarchy Standard) what is the /?

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In Linux FHS, the / (forward slash) refers to the root directory of the filesystem hierarchy. It is the starting point of the filesystem tree and contains all the other directories and files in the system.

The root directory contains essential system files and directories, such as /bin, /etc, /usr, /var, /lib, and others. All other directories in the filesystem are either directly or indirectly linked to the root directory.

When you access the root directory, you are at the topmost level of the directory hierarchy, and you can navigate to any other directory or file on the system by specifying the path relative to the root directory.

2.What is stored in each of the following paths?

/bin, /sbin, /usr/bin and /usr/sbin

/etc

/home

/var

/tmp

==========

/bin: This directory contains essential system binaries that are required for booting, repairing, and maintaining the system, such as ls, cp, mv, mkdir, rm, and others. These binaries are usually available to all users and are essential for basic system functionality.

/sbin: This directory contains system binaries that are typically used by system administrators for system maintenance and management, such as ifconfig, fdisk, mount, route, and others. These binaries are typically not available to regular users.

/usr/bin: This directory contains user binaries that are not required for system booting and maintenance, but are often used by regular users, such as awk, sed, grep, vi, and others. These binaries are typically installed as part of packages provided by the distribution or third-party software.

/usr/sbin: This directory contains system administration binaries that are not required for system booting but are typically used by system administrators, such as useradd, userdel, cron, iptables, and others. These binaries are typically not available to regular users.

/etc: This directory contains system configuration files, such as /etc/passwd, /etc/group, /etc/fstab, and others. These files are usually edited by system administrators to configure system settings.

/home: This directory contains the home directories of regular users. Each user has a subdirectory here with the same name as their username, and this is where their personal files and settings are stored.

/var: This directory contains variable files that are expected to change frequently during system operation, such as log files (/var/log), spool files (/var/spool), mail files (/var/mail), and others.

/tmp: This directory is used for temporary files created by various applications and services. Files in this directory are usually deleted automatically at boot time or by periodic cleanup scripts.

3.What is special about the /tmp directory when compared to other directories?

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The /tmp directory is special when compared to other directories because it is used exclusively for temporary files. Files in this directory are not meant to persist across reboots, and they are typically deleted automatically by the system after a certain period of time or when the system is restarted.

Some other characteristics that make the /tmp directory special are:

Permission: The /tmp directory is usually world-writable, meaning that any user can create files in it. This is because many applications and services need to create temporary files and it would be impractical to restrict access to this directory.

Size limit: The /tmp directory is often mounted as a separate filesystem with a limited size, which means that it can fill up quickly if too many large files are created in it. This is to prevent runaway applications or malicious users from filling up the entire filesystem.

Automatic cleanup: To prevent the /tmp directory from filling up with unnecessary files, most Linux distributions have scripts that periodically clean up old files from this directory. These scripts typically remove files that haven't been accessed in a certain number of days, or that are older than a certain age.

Because of these characteristics, the /tmp directory is an important part of the Linux filesystem hierarchy and is used extensively by many applications and services. It is important to use this directory appropriately and not store files that should persist in it.

4.What kind of information one can find in /proc?

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The /proc directory in Linux is a virtual filesystem that contains information about the current state of the system. The information in /proc is dynamically generated by the kernel and is presented in a hierarchical directory structure. Here are some examples of the kind of information that one can find in /proc:

System information: /proc/cpuinfo contains information about the processors in the system, such as their speed, model, and features. /proc/meminfo contains information about the system's memory usage, such as the total amount of memory, the amount of free memory, and the amount of memory used by the kernel.

Process information: /proc/[pid] contains information about individual processes running on the system, where [pid] is the process ID of the process. Information that can be found here includes the process's memory usage, file descriptors, environment variables, and more.

Kernel configuration: /proc/sys contains information about the kernel configuration, such as system-wide settings for networking, memory management, and other kernel parameters. These settings can be viewed and modified by the user, allowing for fine-grained control over system behavior.

Hardware information: /proc/bus contains information about the system's hardware buses, such as PCI, USB, and SCSI. /proc/devices contains information about the device drivers currently loaded in the kernel, and /proc/interrupts contains information about the interrupt usage of various hardware devices.

Network information: /proc/net contains information about the system's network configuration, such as the list of active network interfaces, the status of network connections, and statistics on network usage.

These are just a few examples of the kind of information that can be found in /proc. Because the information is dynamically generated by the kernel, the exact contents of /proc can vary depending on the system's configuration and current state.

5.What makes /proc different from other filesystems?

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The /proc filesystem is different from other filesystems in Linux in several ways:

It is a virtual filesystem: Unlike most other filesystems, which represent physical storage devices or partitions, the /proc filesystem is a virtual filesystem that exists only in memory. It provides a view into the current state of the system, rather than a view into stored files and directories.

It is dynamically generated: The files and directories in the /proc filesystem are dynamically generated by the kernel and reflect the current state of the system. For example, the /proc/cpuinfo file contains information about the processors currently in use by the system, and this information is generated on the fly when the file is read.

It is read-only: Although some files in the /proc filesystem can be modified, the filesystem as a whole is read-only. This is because the files and directories in /proc are generated dynamically by the kernel, and it would not be meaningful to write data back to them.

It provides system information: The /proc filesystem is a rich source of information about the current state of the system, including information about running processes, hardware configuration, and kernel parameters.

It can be used for system monitoring: Because the /proc filesystem provides dynamic, up-to-date information about the system, it can be used for system monitoring and debugging. Tools like top, ps, and lsof use the /proc filesystem to gather information about running processes, and other tools can use /proc to monitor various aspects of system performance.

Overall, the /proc filesystem is a unique and powerful feature of Linux that provides a wealth of information about the current state of the system. Its virtual, dynamically generated nature sets it apart from other filesystems and makes it an important tool for system administrators and developers alike.

6.True or False? only root can create files in /proc

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False.

While some files in the /proc directory can only be accessed by the root user, most files in the directory are accessible to all users on the system. However, most files in /proc are read-only, and attempting to write to them will result in an error. Additionally, some files in /proc are dynamically generated by the kernel and cannot be created or modified by any user, even the root user.

In general, it is not recommended to create files in the /proc directory manually, as the directory is intended to be used as a view into the current state of the system, rather than as a place to store data.

7.What can be found in /proc/cmdline?

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In Linux, the /proc/cmdline file contains the command line arguments that were passed to the kernel at boot time. When the system boots up, the bootloader passes a set of parameters to the kernel to control its behavior. These parameters can include things like the root filesystem to use, the console device to use for logging, and various kernel options.

The /proc/cmdline file contains a single line of text that represents the complete set of command line arguments that were passed to the kernel at boot time. The format of this line can vary depending on the specific boot loader and kernel being used, but it typically includes a list of key-value pairs separated by spaces. Some common parameters that can be found in /proc/cmdline include:

root: specifies the root filesystem to use

console: specifies the console device to use for logging

quiet: suppresses most kernel messages during boot

splash: enables a graphical boot splash screen

acpi: controls ACPI (Advanced Configuration and Power Interface) support

By examining the contents of the /proc/cmdline file, system administrators can gain insight into how the kernel was configured at boot time and diagnose problems with the boot process. The information in this file can also be used to modify the kernel's behavior by passing additional command line arguments when booting the system.

8.In which path can you find the system devices (e.g. block storage)?

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In Linux, system devices such as block storage devices can be found in the /dev directory. This directory contains device files that represent physical and logical devices connected to the system, including hard drives, SSDs, USB drives, CD/DVD drives, and other storage devices.

The devices in the /dev directory are represented as special files that allow applications to interact with them as if they were regular files. Block storage devices, such as hard drives and SSDs, are represented by device files that start with the prefix sd (e.g., /dev/sda represents the first SCSI/SATA hard drive on the system).

Other types of devices, such as network devices and serial ports, can also be found in the /dev directory. For example, network devices are represented by device files that start with the prefix eth or en (e.g., /dev/eth0 represents the first Ethernet network interface on the system).

It is important to note that the /dev directory only contains device files that represent devices that are currently connected to the system. Devices that are not currently connected will not have a corresponding device file in the /dev directory.

9.How to change the permissions of a file?

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In Linux, you can use the chmod command to change the permissions of a file. The chmod command allows you to modify the read, write, and execute permissions for the owner, group, and others of a file.

SYNTAX:chmod [options] mode file(s)

The mode parameter specifies the new permissions that you want to set for the file. The file(s) parameter specifies the name(s) of the file(s) whose permissions you want to modify.

The mode parameter consists of one or more of the following values:

r (read)

w (write)

x (execute)

u (user/owner)

g (group)

o (others)

a (all)

10.What does the following permissions mean?:

777

644

750

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In Linux, file permissions are represented by a three-digit number, where each digit represents a different level of permission: owner, group, and others. The digits are calculated by adding the values of the individual permissions, where:

r (read) = 4

w (write) = 2

x (execute) = 1

So, for example:

777 means that the owner, group, and others all have read, write, and execute permissions. This is the most permissive set of permissions and is generally not recommended for security reasons.

644 means that the owner has read and write permissions, while the group and others only have read permissions. This is a typical set of permissions for regular files.

750 means that the owner has read, write, and execute permissions, the group has read and execute permissions, and others have no permissions. This is a typical set of permissions for directories, where the owner can create, modify, and delete files, the group can access and execute files, and others have no access.

It's important to note that the actual meaning of these permissions can vary depending on the type of file or directory they are applied to, as well as the user and group ownership of the file. In general, it's important to carefully consider the permissions of a file or directory to ensure that they provide the appropriate level of access while maintaining security.

11.What this command does? chmod +x some_file

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The chmod +x some_file command makes the file some_file executable. The chmod command is used to change the permissions of a file, and the +x option adds the execute permission for the user, group, and others.

By adding the execute permission to a file, you allow it to be run as a program or script. For example, if some_file is a shell script, you can make it executable with chmod +x some_file and then run it with ./some_file.

It's important to note that in order to run a script or program, the file must not only be executable, but it must also be written in a programming language that the system can interpret and execute. Additionally, the user running the script must have permission to execute it, which may depend on the ownership and permissions of the file.

12.Explain what is setgid and setuid

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setgid and setuid are special permission bits that can be set on files or directories in Linux and other Unix-like operating systems. These permission bits allow users to execute a file or access a directory with the privileges of the group or owner of the file, rather than their own privileges.

Here's a brief overview of each permission bit:

setgid: The setgid permission bit is denoted by s in the permission string of a file or directory. When set on a directory, it causes all files created in the directory to inherit the group ownership of the directory instead of the group ownership of the user who created the file. When set on a file, it causes the file to be executed with the group ownership privileges of the file's owner.

setuid: The setuid permission bit is denoted by s in the permission string of a file. When set, it causes the file to be executed with the user ID (UID) of the file's owner, rather than the UID of the user who executed the file.

The use of setgid and setuid permission bits can be helpful in certain situations, such as when a group of users need access to a shared directory or when a program requires elevated privileges to perform certain tasks. However, it's important to use these permission bits carefully, as they can also create security vulnerabilities if not properly managed.

13.What is the purpose of sticky bit?

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The sticky bit is a special permission bit that can be set on a directory in Linux and Unix-like operating systems. When set, it restricts the deletion or renaming of files within that directory to their owners and the superuser. The purpose of the sticky bit is to prevent users from deleting or renaming files that are not owned by them, while still allowing multiple users to create and modify files in the same directory.

14.What do the following commands do?

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chmod: Changes the permissions of a file or directory.

chown: Changes the ownership of a file or directory.

chgrp: Changes the group ownership of a file or directory.

15.What is sudo? How do you set it up?

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sudo is a command that allows users to run commands or programs with elevated privileges, typically as the root user. This can be useful for performing system maintenance tasks or installing software. To set up sudo, you need to add the user account to the sudo group, which can be done with the usermod command. Once the user is added to the sudo group, they can use the sudo command to run commands with elevated privileges.

16.True or False? In order to install packages on the system one must be the root user or use the sudo command.

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True. Installing packages typically requires elevated privileges, so either the root user or a user with sudo privileges must perform the installation.

17.Explain what are ACLs. For what use cases would you recommend to use them?

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ACLs (Access Control Lists) are a mechanism for controlling access to files and directories in Linux and other Unix-like operating systems. ACLs allow for more granular control over file permissions than the standard Unix permissions system, which only allows for user, group, and other permissions. With ACLs, you can specify permissions for specific users or groups, set default permissions for new files or directories, and more. ACLs can be useful in cases where you need to control access to specific files or directories for a large number of users or groups, or when the standard Unix permissions system does not provide enough granularity.

18.You try to create a file but it fails. Name at least three different reasons as to why it could happen.

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Lack of permission to create files in the directory where you are trying to create the file.

Lack of free disk space on the file system where you are trying to create the file.

Name conflict with an existing file in the same directory.

19.A user accidentally executed the following command: chmod -x $(which chmod). How do you fix it?

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This command removes the execute permission from the chmod command, making it impossible to change file permissions using the chmod command. To fix it, you need to restore the execute permission on the chmod command. This can be done using the chown command, which allows you to change the ownership of a file or directory. First, you need to become the root user or use the sudo command to gain elevated privileges. Then, you can use the following command to restore the execute permission on chmod:

chown root:root $(which chmod)

chmod +x $(which chmod)

This command changes the ownership of the chmod command to root:root, and then adds the execute permission back to the chmod command.

20.You would like to copy a file to a remote Linux host. How would you do it?

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One way to copy a file to a remote Linux host is to use the scp (secure copy) command. The scp command uses the SSH protocol to securely transfer files between hosts. Here's an example command to copy a file named file.txt from the local host to a remote host with IP address 10.0.0.1:

"scp file.txt user@10.0.0.1:/path/to/destination"type this code in terminal

Replace user with the username on the remote host, and /path/to/destination with the destination directory on the remote host where you want to copy the file.

21.How to generate a random string?

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One way to generate a random string is to use the openssl command. Here's an example command to generate a random string of 10 characters:

Copy code to terminal

"openssl rand -base64 15 | tr -dc 'a-zA-Z0-9' | head -c 10"

This command generates a random string of 15 characters using the openssl rand command, removes any non-alphanumeric characters using the tr command, and then selects the first 10 characters using the head command.

22.How to generate a random string of 7 characters?

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To generate a random string of 7 characters, you can modify the above command to select the first 7 characters instead of 10:

23.Copy code to terminal

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openssl rand -base64 10 | tr -dc 'a-zA-Z0-9' | head -c 7

This command generates a random string of 10 characters and then selects the first 7 characters using the head command.

23.What is systemd?

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Systemd is a system and service manager for Linux operating systems. It is responsible for starting and stopping system services, managing system resources, and providing a central management interface for system daemons.

24.How to start or stop a service?

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To start or stop a service in systemd, you can use the systemctl command. For example, to start the nginx service, run the following command:

sql

Copy code

sudo systemctl start nginx

To stop the nginx service, run the following command:

arduino

Copy code

sudo systemctl stop nginx

25.How to check the status of a service?

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To check the status of a service in systemd

you can use the systemctl command with the status option. For example, to check the status of the nginx service, run the following command:

luaCopy code

sudo systemctl status nginx

This command will display information about the service, including whether it is currently running or not.

26.On a system which uses systemd, how would you display the logs?

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On a system which uses systemd, you can use the journalctl command to display system logs. For example, to display the logs for the nginx service, run the following command:

Copy code

sudo journalctl -u nginx

This command will display the logs for the nginx service, including any error messages or other relevant information.

27.Describe how to make a certain process/app a service.

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To make a certain process or application a service in systemd, you can create a .service file in the /etc/systemd/system/ directory. This file should specify the command to start the process or application, as well as any dependencies or other configuration options. Here is an example .service file for the nginx web server:

makefile

Copy code

[Unit]

Description=nginx web server

[Service]

ExecStart=/usr/sbin/nginx -g "daemon on; master_process on;"

ExecReload=/usr/sbin/nginx -s reload

Restart=always

[Install]

WantedBy=multi-user.target

After creating this file, you can enable and start the service with the following commands:

bash

Copy code

sudo systemctl enable nginx

sudo systemctl start nginx

29.Where system logs are located?

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System logs are typically located in the /var/log/ directory on Linux systems. Each service or application may have its own log file, which can be found in a subdirectory of /var/log/. For example, the logs for the nginx web server are typically located in /var/log/nginx/.

30.How to follow file's content as it being appended without opening the file every time?

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To follow a file's content as it is being appended without opening the file every time, you can use the tail command with the -f (follow) option. For example, to follow the contents of the nginx access log file, run the following command:

bash

Copy code

sudo tail -f /var/log/nginx/access.log

This command will display the contents of the file as they are being written to it.

31.What are you using for troubleshooting and debugging network issues?

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For troubleshooting and debugging network issues, I typically use tools like ping, traceroute, and netstat to diagnose connectivity issues and network configuration problems. I also use packet capture tools like tcpdump and wireshark to inspect network traffic and identify potential issues.

32.What are you using for troubleshooting and debugging disk & file system issues?

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33.What are you using for troubleshooting and debugging process issues?

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For troubleshooting and debugging disk and file system issues, I typically use tools like df and du to inspect disk usage and identify potential space constraints. I also use `fs

As an AI language model, I don't perform troubleshooting and debugging myself. However, I can provide information on some common methods used for these processes.

For troubleshooting and debugging process issues, common tools include system logs, process monitoring tools such as top, htop, and ps, as well as debugging tools like strace and lsof.

34.What are you using for debugging CPU related issues?

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To debug CPU related issues, tools such as perf, Oprofile, and SystemTap can be used to analyze the performance of the CPU and identify bottlenecks.

35.You get a call from someone claiming "my system is SLOW". What do you do?

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If someone claims that their system is slow, the first step would be to gather more information about the system and the specific issue. This can include checking system logs, running system monitoring tools like top or htop, and analyzing any error messages or performance metrics.

36.Explain iostat output?

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The iostat command is used to display CPU and input/output statistics for devices and partitions. The output includes information such as the percentage of CPU utilization, the number of reads and writes per second, and the amount of data transferred per second.

37.How to debug binaries?

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To debug binaries, tools such as gdb or strace can be used to analyze the behavior of the binary and identify any issues or errors.

38.What is the difference between CPU load and utilization?

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CPU load refers to the number of processes currently being executed or waiting to be executed, while CPU utilization refers to the amount of time the CPU is actually being used to execute processes.

39.How you measure time execution of a program?

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To measure the time execution of a program, you can use the time command in Linux or Unix systems. Alternatively, you can add timing code directly to the program code itself to measure specific sections of code or functions.

40.You have a process writing to a file. You don't know which process exactly, you just know the path of the file. You would like to kill the process as it's no longer needed. How would you achieve it?

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One way to achieve this is to use the lsof command to list all the open files and the processes that have them open, and then filter the results to find the process that is writing to the file in question.

To do this, open a terminal and run the following command:

Copy code

lsof /path/to/file

This will list all the processes that have the file open. Look for the process with the "w" flag in the FD column, which indicates that the process is writing to the file.

Once you have identified the process, note its PID (process ID), and then use the kill command to terminate it:

Copy code

kill PID

Replace PID with the actual process ID.

Alternatively, you can use the fuser command to find the process ID that is using the file, and then use the kill command to terminate it:

Copy code

fuser -k /path/to/file

The -k flag sends a SIGKILL signal to the process, which will forcefully terminate it.

41.What is a kernel, and what does it do?

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A kernel is a central component of an operating system that provides basic services for all other parts of the system. It is responsible for managing system resources such as memory, processors, input/output devices, and controlling the execution of processes.

42.How do you find out which Kernel version your system is using?

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You can find out which Kernel version your system is using by running the following command in a terminal:

Copy code

uname -r

This command will display the Kernel version of your system.

43.What is a Linux kernel module and how do you load a new module?

==========

A Linux kernel module is a piece of code that can be dynamically loaded and unloaded into the kernel at runtime. It provides additional functionality to the kernel, such as support for new hardware devices or filesystems.

To load a new kernel module, you can use the modprobe command followed by the name of the module. For example, to load the nvidia kernel module, you can run:Copy code

sudo modprobe nvidia

44.Explain user space vs. kernel space

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User space is the memory space where user-level processes run. It is a protected area of memory that is isolated from the kernel and other processes. User space programs can access only their own memory space and do not have direct access to system resources.

Kernel space is the memory space where the kernel runs. It is a protected area of memory that is shared by all processes running on the system. The kernel has direct access to system resources and can perform privileged operations, such as hardware access and memory management.

45.In what phases of kernel lifecycle, can you change its configuration?

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You can change the configuration of the kernel in several phases of its lifecycle, including:

During compilation: You can configure the kernel before building it from source.

During boot: You can pass boot parameters to the kernel to modify its behavior at boot time.

During runtime: You can use the sysctl command to modify kernel runtime parameters.

46.Where can you find kernel's configuration?

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The kernel configuration can be found in the /proc/config.gz file. This file contains the configuration used to build the currently running kernel.

47.Where can you find the file that contains the command passed to the boot loader to run the kernel?

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The file that contains the command passed to the boot loader to run the kernel is /proc/cmdline. You can view the contents of this file by running the following command:

Copy code

cat /proc/cmdline

48.How to list kernel's runtime parameters?

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You can list the kernel's runtime parameters using the sysctl command. To list all the parameters, you can run the following command:

Copy code

sysctl -a

49.Will running sysctl -a as a regular user vs. root, produce different result?

==========

Yes, running sysctl -a as a regular user will produce a different result than running it as root. Some kernel parameters are only visible to the root user, and running sysctl -a as a regular user will not show those parameters.

50.You would like to enable IPv4 forwarding in the kernel, how would you do it?

==========

To enable IPv4 forwarding in the kernel, you can run the following command as root:

sysctl -w net.ipv4.ip_forward=1

This will immediately enable IPv4 forwarding. To make the change persistent across reboots, you can add the following line to the /etc/sysctl.conf file:

Copy code

net.ipv4.ip_forward=1

51.How sysctl applies the changes to kernel's runtime parameters the moment you run sysctl command?

`sys

==========

The sysctl command is used to modify the kernel's runtime parameters, also known as sysctl variables. These variables control various aspects of the system's behavior, such as network settings, memory usage, and process scheduling.

When you run the sysctl command, it uses the sysctl() system call to modify the value of the specified sysctl variable in the kernel's parameter table. The change takes effect immediately, affecting the behavior of the system in real-time. This means that you do not need to reboot your system to apply the changes.

52.How changes to kernel runtime parameters persist? (applied even after reboot to the system for example)

==========

To make changes to kernel parameters persist across reboots, you can modify the system's configuration files. On most Linux systems, the sysctl configuration file is located at /etc/sysctl.conf. You can add lines to this file to specify the desired values for the sysctl variables, and the changes will be applied automatically on system startup.

53.Are the changes you make to kernel parameters in a container, affects also the kernel parameters of the host on which the container runs?

==========

Regarding containers, changes to kernel parameters made within a container affect only that container's view of the kernel. The container's kernel namespace isolates it from the host system's kernel and other containers' kernels. Changes made to kernel parameters on the host system will not affect containers running on that system, and vice versa. However, it is worth noting that some container runtimes allow you to pass host kernel parameters to the container using various mechanisms. In such cases, the changes made within the container can affect the behavior of the host system.

54.What is SSH? How to check if a Linux server is running SSH?

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SSH (Secure Shell) is a network protocol that allows secure communication between two networked devices. It is commonly used for remote login to servers and allows users to access a command-line interface on a remote machine securely.

To check if a Linux server is running SSH, you can use the command "systemctl status sshd". If the server is running SSH, the output of the command will indicate that the service is active and running.

55.Why SSH is considered better than telnet?

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SSH is considered better than Telnet because Telnet sends all data, including login credentials, in plain text over the network, making it vulnerable to eavesdropping and unauthorized access. In contrast, SSH uses encryption to secure all communication between the two devices, making it much more secure.

56.What is stored in ~/.ssh/known_hosts?

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The "~/.ssh/known_hosts" file contains a list of public keys for remote hosts that the user has previously connected to via SSH. When a user attempts to connect to a remote host, SSH checks the public key of the remote host against the list of known hosts in this file. If the key is not found in the file, the user is prompted to confirm the authenticity of the remote host's key.

57.You try to ssh to a server and you get "Host key verification failed". What does it mean?

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If you get the error message "Host key verification failed" when trying to SSH to a server, it means that the SSH client does not recognize the host key of the remote server. This can happen if the host key has changed since the last time you connected to the server, or if you are connecting to a new server for the first time. To resolve this issue, you need to update the host key in the "~/.ssh/known_hosts" file.

58.What is the difference between SSH and SSL?

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SSH and SSL (Secure Sockets Layer) are both protocols used to provide secure communication over a network. However, SSH is typically used for remote login to servers and other networked devices, while SSL is used for secure communication between web browsers and web servers.

59.What ssh-keygen is used for?

==========

ssh-keygen is a command-line tool used to generate, manage, and manipulate authentication keys for SSH. It is used to create a pair of public and private keys that can be used for authentication when connecting to a remote server via SSH.

60.What is SSH port forwarding?

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SSH port forwarding (also known as SSH tunneling) is a technique used to forward network traffic securely from a local machine to a remote machine via an SSH connection. It is commonly used to access services that are otherwise inaccessible due to firewalls or other network restrictions. SSH port forwarding can be set up using the SSH command-line tool or SSH clients that have GUI interfaces.