

Scenario-Based Linux Interview Questions and Answers

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1. How to set a username and password to NEVER EXPIRE?

Command to check expiration date:

```
chage -l username
```

-l: Lists account aging information.

Command to set account to never expire:

```
chage -M -1 username
```

-M -1: Sets password to never expire.

Additional chage options:

- -E YYYY-MM-DD: Set expiration date.
- -w DAYS: Set warning days before password expiry.

2. Why are /etc/passwd and /etc/shadow not merged into one file?

- /etc/passwd is readable by all users and is used by commands like finger, ls, etc.
- For security, password hashes are stored in /etc/shadow, which is only readable by root.

3. How to list all files opened by a particular PID?

```
lsof -p <PID>
```

lsof: Lists open files.

4. Why can't I unmount a file system?

Possible reasons:

- Current working directory is inside the file system (pwd).
- Other users or processes are accessing it (fuser -cu /dev/sda, lsof /dev/sda).

5. Why does the server take a long time to boot after a reboot?

- The file system may be corrupted.
- ext2 file system lacks journaling support, which may delay recovery.

6. Permission denied error when creating a file, but no disk space or permission issues?

Possible cause: Inode exhaustion

Check inode usage:

```
df -i
```

If 100% inodes are used:

- Delete or move unnecessary files.

7. How to check kernel routing table?

```
route -n
```

```
netstat -rn
```

```
ip route
```

8. What is a Sticky Bit, and what is the difference between s and S?

Sticky bit: Only the file/directory owner or root can delete.

Setting sticky bit:

```
chmod +t /opt/dump
```

```
chmod 1757 /opt/dump
```

- s: setuid/setgid and executable.
- S: setuid/setgid but not executable.

9. Which file defines the default gateway?

```
/etc/sysconfig/network
```

10. How to switch runlevels in RHEL 7?

```
systemctl isolate multi-user.target
```

```
systemctl isolate graphical.target
```

```
systemctl set-default multi-user.target
```

```
systemctl get-default
```

11. What is NFS and how to configure it?

Port: 2049

NFS Server:

1. Install nfs-utils.
2. Create and export directory via /etc/exports.
3. Restart nfs-server.

NFS Client:

1. Install NFS utilities.
2. Use showmount to view exports.
3. Mount export and verify access.

12. What is Nice value and how is it set?

```
nice -n [value] <command>
```

Range: -20 (high priority) to +19 (low priority).

13. Difference between FTP and TFTP

Feature	FTP	TFTP
Protocol	TCP	UDP
Ports	20, 21	69
Size/Complexity	Heavier, feature-rich	Lightweight, simpler
Authentication	Required	Not required
Commands	Many	Only 5 messages

15. How to extend the file system in Linux?

```
lvextend -L +1G /dev/vg_name/lv_name  
resize2fs /dev/vg_name/lv_name
```

16. How to rollback a package after patching?

```
yum history  
yum history info <ID>  
yum history undo <ID>
```

17. What is rsync and how is it used?

```
rsync -rv -e ssh /source 192.168.10.95:/destination
```

- r: Recursive
- v: Verbose

18. How to reduce file system size (offline only)?

```
umount /mount_point  
e2fsck -f /dev/vg_name/lv_name  
resize2fs /dev/vg_name/lv_name  
lvreduce -L -200M /dev/vg_name/lv_name
```

19. What do the three load average values in `uptime` indicate?

They represent average system load over 1, 5, and 15 minutes.

20. How to number lines in vi editor?

```
:set nu
```

21. How to scan for new disks in Linux?

```
echo "--" > /sys/class/scsi_host/hostX/scan
```

22. Explain /etc/fstab fields

1. Device name
2. Mount point
3. File system type
4. Mount options
5. Dump (backup)
6. fsck order

23. Soft vs Hard Link

Feature	Soft Link	Hard Link
Across partitions	Yes	No
Inode number	Different	Same
Original file deletion	Link broken	Link still works
Command	In -s source target	In source target

24. Can a soft link span partitions?

Yes, soft links can span partitions.

25. Location of NFS shared info?

```
/etc/fstab
```

26. How to check if a port is listening?

```
netstat -anp | grep <port>
```

27. Difference between `df` and `du`?

Command	Purpose	Notes
df	Shows filesystem space (faster)	Uses metadata
du	Shows directory/file usage (detailed)	May be slow and inaccurate due to hardlinks

28. What is journaling in filesystems?

- Journaling logs metadata changes to prevent corruption.
- Pros: Increased reliability.
- Cons: Slightly slower performance.

29. Patch command failing due to dependency issues. What to do?

```
rpm -ivh <package>.rpm --nodeps
```

--nodeps: Installs without checking dependencies (use with caution).