Linux Interview Questions and Answers

1. **Explain Boot Process?**
   - ➔ **BIOS –** BIOS is used to search the boot loader (GRUB/LILO) program to load and execute it. When the Boot loader loaded into the memory. BIOS execute the MBR boot loader.
   - ➔ **MBR – MBR** is located in the first sector of the **HDD.**

MBR stores in 512 bytes in size, there are three components of MBR.

- Primary boot loader information stored in 1st 446 bytes
- Partition table information stored in the next 64 bytes
- MBR validation check stored in the last 2 bytes.

MBR stores information about any boot loader. It loads and execute the GRUB.

- ➔ **GRUB –** It stores all information about OS, It displays splash screen on system to choose OS if you dual boot it. If you don't enter anything it will load the default kernel image that you specified in the grub configuration file. So **GRUB** loads and executes **Kernel**.
- ➔ **Kernel –** is responsible to communicate between hardware and software it mounts the root file system, so it loads and execute the **Init process.**
- ➔ **Init –** It checks the file /etc/inittab to decide which run level should load.

➔ 0 – halt
➔ 1 – single-user mode
➔ 2 – Multiuser, without NFS
➔ 3 – Full multiuser mode - multi-user.target
➔ 4 – unused
➔ 5 – X11 – graphical.target
➔ 6 – reboot

- ➔ **Runlevel –** is the mode of OS, starts from zero to six.

What is UMASK?

Ans: User file creation mask – It is used to assign default permission for newly created folders and files.

What is the UMASK value of ROOT user?

[root@localhost ~]# umask

0022

[root@localhost ~]#

What is the UMASK value of NORMAL user?

Ans: 0002

Can we change the default umask value?

Yes we can change using umask command.

How to change port number?

We can change the port in configuration file and restart the service, then the change will be applied.

What is the permission of /tmp directory?

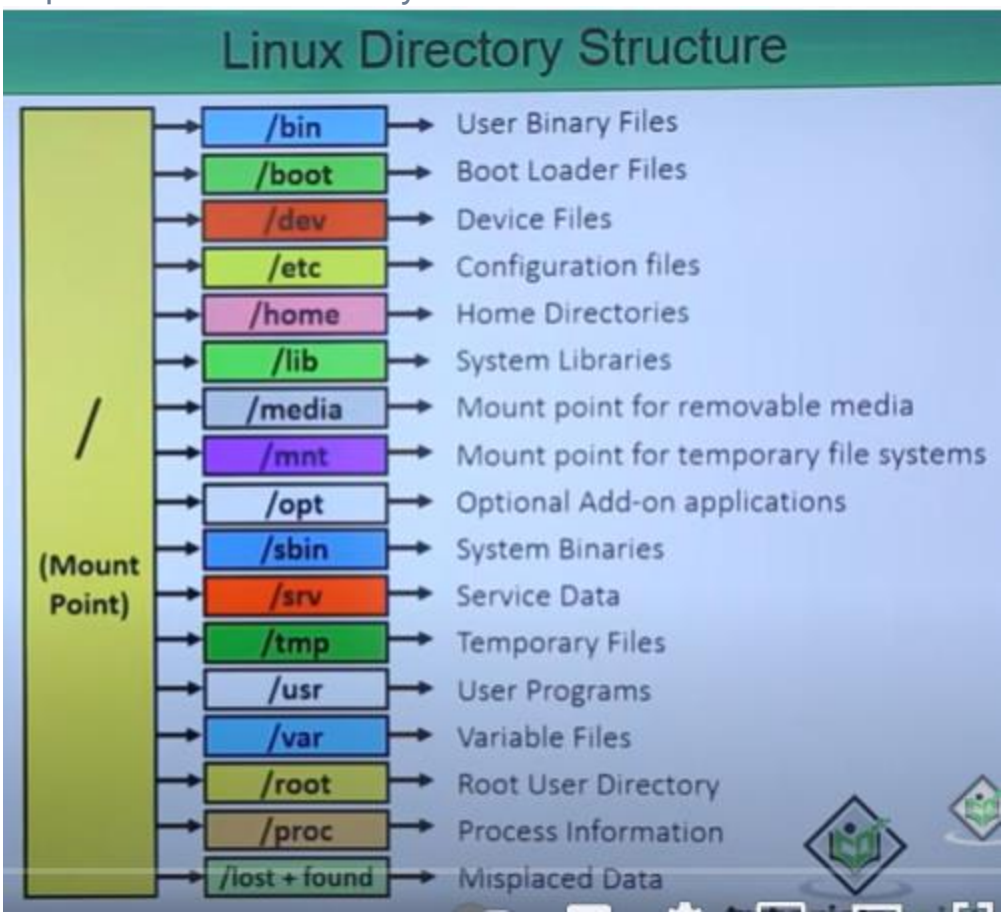
/tmp directory permission is 777, so that any user can perform read, write, and execute on /tmp folder.

[root@localhost ~]# ll -ld /tmp/

drwxrwxrwt. 28 root root 4096 Dec 13 19:21 /tmp/

[root@localhost ~]#

Explain Linux Hierarchy?



What is subnet?

Subnet is the range of IP address. Used to divide IP address in two parts. One part identifies the host (computer), the other part identifies the network.

How to change permission of directory/file?

chmod command is used to change permission of directory/file.

How to change ownership and group ownership of directory/file?

chown command is used to change ownership and group ownership of directory/file.

How to check memory utilization?

free command is used to check memory utilization.

How to check cpu utilization?

top command is used to check cpu utilization based on processes.

How to check when server started?

uptime command is used to check uptime of server.

What is the difference between TCP and UDP?

TCP	UDP
1. TCP is a connection-oriented protocol. Connection-orientation means that the communicating devices should establish a connection before transmitting data and should close the connection after transmitting the data. 2. TCP is reliable as it guarantees the delivery of data to the destination router. 3. Retransmission of lost packets is possible 4. Slower than UDP 5. TCP is used by HTTP, HTTPs, FTP, SMTP and Telnet.	1. UDP is the Datagram oriented protocol. This is because there is no overhead for opening a connection, maintaining a connection, and terminating a connection. UDP is efficient for broadcast and multicast type of network transmission. 2. The delivery of data to the destination cannot be guaranteed in UDP. 3. No retransmission of lost packets 4. Faster than TCP 5. UDP is used by DNS, DHCP, TFTP, SNMP, RIP, and VoIP.

What is PID?

PID is the process ID of a particular process, it is automatically assigned to each process when it is created.

How to check open ports in linux?

netstat –tulpn | grep –I list

OR

[root@localhost ~]# nmap localhost

Starting Nmap 6.40 (http://nmap.org) at 2021-12-17 16:39 IST

Nmap scan report for localhost (127.0.0.1)

Host is up (0.0000070s latency).

Other addresses for localhost (not scanned): 127.0.0.1

Not shown: 995 closed ports

PORT STATE SERVICE

22/tcp open ssh

25/tcp open smtp

111/tcp open rpcbind

631/tcp open ipp

8000/tcp open http-alt

Nmap done: 1 IP address (1 host up) scanned in 0.05 seconds

[root@localhost ~]#

What is SWAP?

SWAP act as a virtual memory it is used when the amount of physical memory (RAM) is full. If the system needs more memory resources and the RAM is full, inactive pages in memory are moved to the swap space.

Explain the fields of Crontab?

```
* * * * * command(s)
- - - - -
| | | | |
| | | | ----- Day of week (0 - 7) (Sunday=0 or 7)
| | | ------- Month (1 - 12)
| | --------- Day of month (1 - 31)
| ----------- Hour (0 - 23)
------------- Minute (0 - 59)
```

Explain the fields of /etc/passwd file?

```
Output

mark:x:1001:1001:mark,,,:/home/mark:/bin/bash
[--] - [--] [--] [-----] [--------] [--------]
|    |   |    |     |         |        |
|    |   |    |     |         |        +-> 7. Login shell
|    |   |    |     |         +----------> 6. Home directory
|    |   |    |     +--------------------> 5. GECOS
|    |   |    +--------------------------> 4. GID
|    |   +-------------------------------> 3. UID
|    +-----------------------------------> 2. Password
+---------------------------------------> 1. Username
```

How to take backup of server?

We can take the snapshot of server, and we can restore it on server if we perform any activity and something goes wrong.

How to check or see process?

ps –ef → is used to check all process which is running in the system.

Syntax: ps –ef | grep <process_name> → is used to check particular process.

Example: ps –ef | grep httpd

```
[root@localhost ~]# ps -ef | grep httpd
root      1480     1  0 15:42 ?        00:00:00 /usr/sbin/httpd -DFOREGROUND
apache    2053  1480  0 15:42 ?        00:00:00 /usr/sbin/httpd -DFOREGROUND
apache    2056  1480  0 15:42 ?        00:00:00 /usr/sbin/httpd -DFOREGROUND
apache    2057  1480  0 15:42 ?        00:00:00 /usr/sbin/httpd -DFOREGROUND
apache    2058  1480  0 15:42 ?        00:00:00 /usr/sbin/httpd -DFOREGROUND
apache    2059  1480  0 15:42 ?        00:00:00 /usr/sbin/httpd -DFOREGROUND
root      5297  3764  0 16:57 pts/0    00:00:00 grep --color=auto httpd
[root@localhost ~]#
```

How many types of users available in the linux?

There are four types of user available in linux.

Root: It is the admin of server who can do anything.

System User: System users are the users created by the softwares or applications. For example if we install Apache it will create a user apache. This kind of users are known as system users.

Normal User: Normal users are the users created by root user. They are normal users like John, Ramu etc. Only the root user has the permission to create or remove a user.

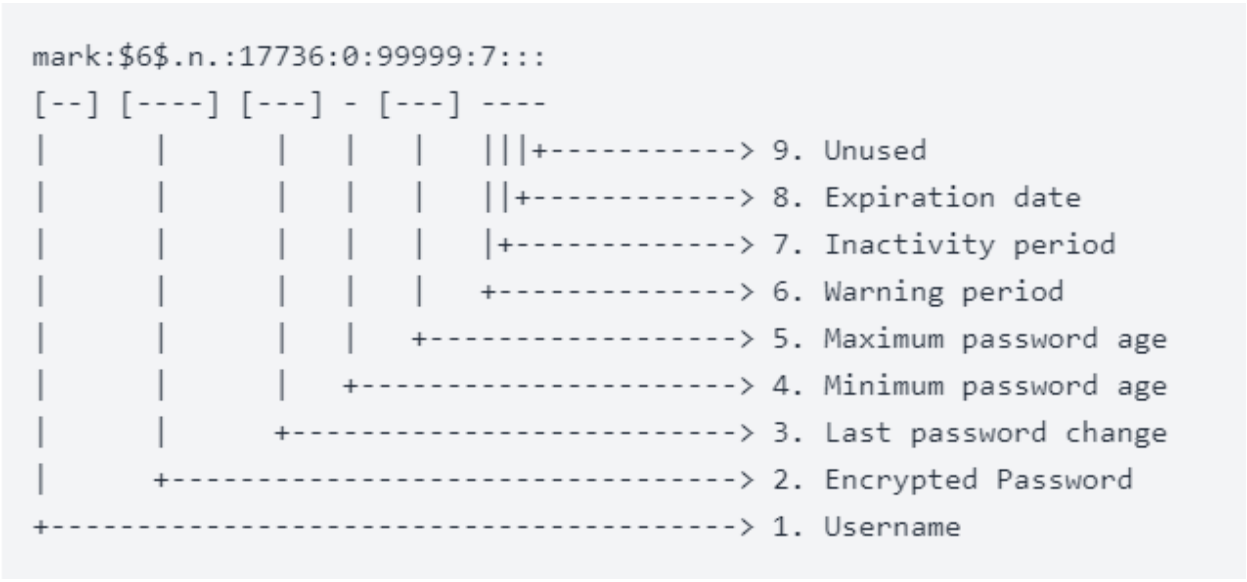
What is SUDO user?

SUDO stands for “Super User DO”, it allows normal user to execute commands as root user.

How do you login into the servers?

We use JUMP server to access servers of environment like SIT, UAT, PRE-PROD and PRODUCTION environments. JUMP server is publically accessible using Public IP.

Explain the fields of /etc/shadow file?



What is the difference between Public IP and Private IP?

Private IP: is used to access the servers in same network.

Public IP: is used to access internet on server.