Linux Administration - II Sample Interview Questions & Answers

1) Explain linux booting process

BIOS(Basic Input Output System)-performs the POST (power on self test) to detect, test and initialize system hardware components. Loads the MBR (Master boot record).

MBR-Master Boot Record (MBR) is the first 512 bytes of the boot drive that is read into memory by the BIOS.MBR discovers the bootable device and loads the GRUB2 boot loader into memory and transfers control over to it.

GRUB2 bootloader-The default bootloader program used on RHEL 7 is GRUB 2. GRUB stands for GRand Unified Bootloader.GRUB2 loads the vmlinuz kernel image file into memory and extracts the contents of the initramfs image file into a temporary, memory-based file system (tmpfs).

The initial RAM disk (initrd) is an initial root file system that is mounted before the real root file system.

Kernel-The kernel starts the systemd process with a process ID of 1 (PID 1).

systemd-systemd brings the system to the state defined by the system target, performing system initialization tasks such as:

1. Setting the host name

2. Initializing the network

3. Initializing the system hardware based on kernel boot arguments

4. Mounting the file systems, including virtual file systems such as the /proc file system. etc...

2) What is swap and its advantages

Swap space in Linux 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.

Advantages-Provides overflow space when your memory fills up completely

Can move rarely-needed items away from your high-speed memory

Allows you to hibernate

3) What is at command

The at command schedules a command to be run once at a particular time that you normally have permission to run.

4) Write commands used to resize logical volume

lvextend-Extend logical volume

lvreduce-Reduce logical volume size

resize2fs-resize ext2 ext3 ext4 file system

5) Explain process monitoring commands and difference between them

The top program provides a dynamic real-time view of a running system. It can display system summary information as well as a list of processes or threads currently being managed by the Linux kernel.

ps-ps gives a snapshot of the current processes.

6) Explain firewall and iptables

The iptables service stores configuration in /etc/sysconfig/iptables while firewalld stores it in various XML files in /usr/lib/firewalld/ and /etc/firewalld/. Note that the /etc/sysconfig/iptables file does not exist as firewalld is installed by default on Fedora.

With the iptables service, every single change means flushing all the old rules and reading all the new rules from /etc/sysconfig/iptables while with firewalld there is no recreating of all the rules; only the differences are applied. Consequently, firewalld can change the settings during run time without existing connections being lost.

7) What is temporary mounting and permanent mounting

Temporary mounting-mounting will not be available after reboot

Permanent mounting-Mounting persist across reboot

8) Explain the fields of /etc/fstab file

1) device name-Specifies the device to be mounted. You can specify the device file or Label in this field.

2)Mount point-The directory under the root filesystem, where this filesystem will be mounted.

3)file system-Specifies the filesystem type (ext2, ext3, iso9660 etc).

4)mount options-specifies how to mount the filesystem(eg:defaults-Uses the default options that are rw, suid, dev, exec, auto, nouser, and async. Usually the Linux operating systems use this option in /etc/fstab file.)

5)dump flag-Dump is a backup utility. The possible values can be either 0 or 1. Dump uses this value to decide whether the file system should be backed up. If the value is "0", the dump will ignore that filesystem.

6)fsck order-"fsck" is a tool to check the file system consistency. This value determines the order that filesystems are checked by the "fsck" program during the boot process. If the value is "0", fsck won't check the filesystem.

9) Explain ext3 ext4 and fat file systems

ext3-Ext3 stands for third extended file system.

The main benefit of ext3 is that it allows journaling.

Maximum individual file size can be from 16 GB to 2 TB

Overall ext3 file system size can be from 2 TB to 32 TB

ext4-Ext4 stands for fourth extended file system.

Supports huge individual file size and overall file system size.

Maximum individual file size can be from 16 GB to 16 TB

Overall maximum ext4 file system size is 1 EB (exabyte). 1 EB = 1024 PB (petabyte). 1 PB = 1024 TB (terabyte).

Directory can contain a maximum of 64,000 subdirectories (as opposed to 32,000 in ext3)

Fat32-Maximum individual file size 2GB

Maximum volume size 512M to 8TB

10) Explain fdisk –l command

fdisk -l shows all available disks and partitions

11) What is run level and initrd?

A runlevel defines the state of the machine after boot.Conventionally, seven runlevels exist, numbered from zero to six

12) What is the use of grep command?

grep is a command-line utility for searching plain-text data sets for lines that match a regular expression

13) Name a few linux bootloaders

GRUB

LILO

BURG

Syslinux

14) ID of swap partition

82

15) What is the use of mkfs command

Make file system(mkfs) command used to create a file system

16) **Explain fields of crontab**

A crontab file has five fields for specifying day , date and time followed by the command to be run at that interval.