# Topic 101: System Architecture

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101.1 (2) Determine and configure hardware settings

101.2 (3) Boot the system

101.3 (3) Change runlevels / boot targets and shutdown or reboot syste

**Question: 1**

101.3 Change runlevels / boot targets and shutdown or reboot system

Which SysV init configuration file should be modified to disable the ctrl-alt-delete key combination?

A. /etc/keys

B. /proc/keys

C. /etc/inittab

D. /proc/inittab

E. /etc/reboot

**Answer: C**

**Question: 2**

101.2 Boot the system

During a system boot cycle, what program is executed after the BIOS completes its tasks?

A. The bootloader

B. The inetd program

C. The init program

D. The kernel

**Answer: A**

**Question: 3**

101.3 Change runlevels / boot targets and shutdown or reboot system

Which run levels should never be declared as the default run level when using SysV init? (Choose

TWO correct answers.)

A. 0

B. 1

C. 3

D. 5

E. 6

**Answer: A,E**

**Question: 4**

101.1 Determine and configure hardware settings

Which of the following statements is correct when talking about /proc/?

A. All changes to files in /proc/ are stored in /etc/proc.d/ and restored on reboot.

B. All files within /proc/ are read-only and their contents cannot be changed.

C. All changes to files in /proc/ are immediately recognized by the kernel.

D. All files within /proc/ are only readable by the root user.

**Answer: C**

**Question: 5**

101.1 Determine and configure hardware settings

What of the following statements are true regarding /dev/ when using udev? (Choose TWO correct

answers.)

A. Entries for all possible devices get created on boot even if those devices are not connected.

B. Additional rules for udev can be created by adding them to /etc/udev/rules.d/.

C. When using udev, it is not possible to create block orcharacter devices in /dev/ using mknod.

D. The /dev/ directory is a filesystem of type tmpfs and is mounted by udev during system startup.

E. The content of /dev/ is stored in /etc/udev/dev and is restored during system startup.

**Answer: B,D**

**Question: 6**

101.2 Boot the system

Which of the following information is stored within the BIOS? (Choose TWO correct answers.)

A. Boot device order

B. Linux kernel version

C. Timezone

D. Hardware configuration

E. The system's hostname

**Answer: A,D**

**Question: 7**

101.3 Change runlevels / boot targets and shutdown or reboot system

Which of the following commands reboots the system when using SysV init? (Choose TWO correct

answers.)

A. shutdown -r now

B. shutdown -r "rebooting"

C. telinit 6

D. telinit 0

E. shutdown -k now "rebooting"

**Answer: A,C**

**Question: 8**

101.2 Boot the system

Which of the following are init systems used within Linux systems? (Choose THREE correct answers.)

A. startd

B. systemd

C. Upstart

D. SysInit

E. SysV init

**Answer: B,C,E**

**Question: 9**

101.1 Determine and configure hardware settings

FILL IN THE BLANK

Which file in the /proc filesystem lists parameters passed from the bootloader to the kernel? (Specify

the file name only without any path.)

**Answer: cmdline, /proc/cmdline**

**Question: 10**

101.1 Determine and configure hardware settings

What information can the lspci command display about the system hardware? (Choose THREE

correct answers.)

A. Device IRQ settings

B . P C I bus speed

C. System battery type

D. Device vendor identification

E. Ethernet MAC address

**Answer: A,B,D**

**Question: 11**

101.3 Change runlevels / boot targets and shutdown or reboot system

Which of the following commands brings a system running SysV init into a state in which it is safe to

perform maintenance tasks? (Choose TWO correct answers.)

A. shutdown -R 1 now

B. shutdown -single now

C. init 1

D. telinit 1

E . runlevel 1

**Answer: C,D**

**Question: 12**

101.2 Boot the system

What is the first program that is usually started, at boot time, by the Linux kernel when using SysV

init?

A. /lib/init.so

B. /sbin/init

C. /etc/rc.d/rcinit

D. /proc/sys/kernel/init

E. /boot/init

**Answer: B**

**Question: 13**

101.2 Boot the system

Which command will display messages from the kernel that were output during the normal boot

sequence?

**Answer: dmesg, /bin/dmesg**

**Question: 14**

101.3 Change runlevels / boot targets and shutdown or reboot system

Which of the following commands will write a message to the terminals of all logged in users?

A. bcast

B. mesg

C. print

D. wall

E. yell

**Answer: D**

**Question: 15**

101.2 Boot the system

Which of the following kernel parameters instructs the kernel to suppress most boot messages?

A . silent

B . verbose = 0

C . nomesg

D. quiet

**Answer: D**

**Question: 16**

101.3 Change runlevels / boot targets and shutdown or reboot system

Which of the following options for the kernel's command line changes the systemd boot target to

rescue.target instead of the default target?

A. systemd.target=rescue.target

B. systemd.runlevel=rescue.target

C. systemd.service=rescue.target

D. systemd.default=rescue.target

E. systemd.unit=rescue.target

**Answer: E**

**Question: 17**

101.2 Boot the system

The message "Hard Disk Error" is displayed on the screen during Stage 1 of the GRUB boot process.

What does this indicate?

A. The kernel was unable to execute /bin/init

B. The next Stage cannot be read from the hard disk because GRUB was unable to determine the size

and geometry of the disk

C. One or more of the filesystems on the hard disk has errors and a filesystem check should be run

D. The BIOS was unable to read the necessary data from the Master Boot Record to begin the boot

process

**Answer: B**

**Question: 18**

101.2 Boot the system

During a system boot cycle, what is the program that is run after the BIOS completes its tasks?

A. The bootloader

B. The inetd program

C. The init program

D. The kernel

**Answer: A**

**Question: 19**

101.3 Change runlevels / boot targets and shutdown or reboot system

You are having some trouble with a disk partition and you need to do maintenance on this partition but your users home directories are on it and several are logged in. Which command would

disconnect the users and allow you to safely execute maintenance tasks?

A. telinit 1

B. shutdown -r now

C. killall -9 inetd

D. /bin/netstop --maint

E. /etc/rc.d/init.d/network stop

**Answer: A**

**Question: 20**

101.1 Determine and configure hardware settings

You suspect that a new ethernet card might be conflicting with another device. Which file should you

check within the /proc tree to learn which IRQs are being used by which kernel drivers?

**Answer: interrupts, /proc/interrupts**

**Question: 21**

101.2 Boot the system

The system is having trouble and the engineer wants to bypass the usual /sbin/init start up and run

/bin/sh. What is the usual way to pass this change to the kernel from your boot loader?

A. Start in runlevel 1.

B. Pass init=/bin/sh on the kernel parameter line.

C. Pass /bin/sh on the kernel parameter line.

D. Pass start=/bin/sh on the kernel parameter line.

**Answer: B**

**Question: 22**

101.1 Determine and configure hardware settings

The USB device filesystem can be found under /proc/\_\_\_\_\_\_/usb/. (Please fill in the blank with the

single word only)

**Answer: bus**

**Question: 23**

101.2 Boot the system

Which command displays the contents of the Kernel Ring Buffer on the command line? (Provide only

the command name without any options or path information)

**Answer: dmesg, /bin/dmesg**

**Question: 194**

101.1 Determine and configure hardware settings

Which of the following commands will load a kernel module along with any required dependency

modules?

A. depmod

B. insmod

C. modprobe

D. module\_install

E . loadmod

**Answer: C**

**Question: 195**

101.3 Change runlevels / boot targets and shutdown or reboot system

Which of the following commands instructs SysVinit to reload its configuration file?

A. reinit

B. initreload

C. telinit 7

D. telinit q

E. init reinit

**Answer: D**

**Question: 196**

101.2 Boot the system

Which of the following describes the correct order in which the components of the system boot

process are started?

A. BIOS, kernel, bootloader, init system

B. BIOS, bootloader,kernel, init system

C. Bootloader, BIOS, kernel, init system

D. BIOS, bootloader, init system, kernel

E. Bootloader, BIOS, init system, kernel

**Answer: B**

**Question: 197**

101.2 Boot the system

Where does the BIOS search for a bootloader?

A. On all connected storage media regardless of the boot device order.

B. On all connected storage media in the defined boot device order.

C. Only on hard disk drives in the defined boot device order.

D. Only on the last added storage media.

E. The BIOS is not responsible to search for a valid bootloader.

**Answer: B**

**Question: 198**

101.2 Boot the system

Which command reads and displays the current contents of the Kernel Ring Buffer on the command

line? (Specify ONLY the command without any path or parameters.)

**Answer: dmesg**

**Question: 199**

101.1 Determine and configure hardware settings

Which file in /proc describes the IRQs that are used by various kernel drivers? (Specify the file name

only without any path.)

**Answer: interrupts**

**Question: 200**

101.3 Change runlevels / boot targets and shutdown or reboot system

Which SysV init configuration file is commonly used to set the default run level? (Specify the full

name of the file, including path.)

**Answer: inittab**

**Question: 201**

101.3 Change runlevels / boot targets and shutdown or reboot system

What is the process ID number of the init process on a SysV init based system?

A . -1

B. 0

C. 1

D. It is different with each reboot.

E. It is set to the current run level.

**Answer: C**

**Question: 202**

101.3 Change runlevels / boot targets and shutdown or reboot system

The system configuration file named \_\_\_\_\_\_\_ is commonly used to set the default runlevel. (Please

provide the file name with full path information)

**Answer: /etc/inittab**

**Question: 211**

101.3 Change runlevels / boot targets and shutdown or reboot system

Which daemon handles power management events on a Linux system?

A. acpid

B. batteryd

C. pwrmgntd

D. psd

E. inetd

**Answer: A**

**Question: 212**

101.2 Boot the system

Which of the following statements are true about the boot sequence of a PC using a BIOS? (Choose

two.)

A. Some parts of the boot process can be configured from the BIOS

B. Linux does not require the assistance of the BIOS to boot a computer

C. The BIOS boot process starts only if secondary storage, such as the hard disk, is functional

D. The BIOS initiates the boot process after turning the computer on

E. The BIOS is started by loading hardware drivers from secondary storage, such as the hard disk

**Answer: A,D**

**Question: 213**

101.2 Boot the system

What is true regarding UEFI firmware? (Choose two.)

A. It can read and interpret partition tables

B. It can use and read certain file systems

C. It stores its entire configuration on the /boot/ partition

D. It is stored in a special area within the GPT metadata

E. It is loaded from a fixed boot disk position

**Answer: B,D**

**Question: 214**

101.1 Determine and configure hardware settings

A faulty kernel module is causing issues with a network interface card. Which of the following actions

ensures that this module is not loaded automatically when the system boots?

A. Using lsmod --remove --autoclean without specifying the name of a specific module

B. Using modinfo -k followed by the name of the offending module

C. Using modprobe -r followed by the name of the offending module

D. Adding a blacklist line including the name of the offending module to the file

/etc/modprobe.d/blacklist.conf

E. Deleting the kernel module's directory from the file system and recompiling the kernel, including

its modules

**Answer: D**

**Question: 215**

101.2 Boot the system

When is the content of the kernel ring buffer reset? (Choose two.)

A. When the ring buffer is explicitly reset using the command dmesg --clear

B. When the ring buffer is read using dmesg without any additional parameters

C. When a configurable amount of time, 15 minutes by default, has passed

D. When the kernel loads a previously unloaded kernel module

E. When the system is shut down or rebooted

**Answer: A,E**

**Question: 216**

101.3 Change runlevels / boot targets and shutdown or reboot system

What is the first program the Linux kernel starts at boot time when using System V init?

A. /lib/init.so

B. /proc/sys/kernel/init

C. /etc/rc.d/rcinit

D. /sbin/init

E. /boot/init

**Answer: D**

**Question: 227**

102.5 Use RPM and YUM package management

What is true regarding the configuration of yum? (Choose two.)

A. Changes to the repository configuration become active after running yum confupdate

B. Changes to the yum configuration become active after restarting the yumd service

C. The configuration of package repositories can be divided into multiple files

D. Repository configurations can include variables such as $basearch or $releasever

E. In case /etc/yum.repos.d/ contains files, /etc/yum.conf is ignored

**Answer: D,E**

**Question: 228**

102.4 Use Debian package management

Which of the following apt-get subcommands installs the newest versions of all currently installed

packages?

A. auto-update

B. dist-upgrade

C. full-upgrade

D. install

E. update

**Answer: E**

**Question: 229**

102.4 Use Debian package management

Which command uninstalls a package but keeps its configuration files in case the package is re-

installed?

A. dpk g - s pkgname

B. dpk g - L pkgname

C. dpk g - P pkgname

D. dpkg -v pkgname

E. dpk g - r pkgname

**Answer: E**

**Question: 230**

102.5 Use RPM and YUM package management

Which of the following commands lists the dependencies of the RPM package file foo.rpm?

A. rpm -qpR foo.rpm

B. rpm -dep foo

C. rpm -ld foo.rpm

D. rpm -R foo.rpm

E. rpm -pD foo

**Answer: A**