



CompTIA Linux+ and LPIC Practice Tests



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Part I CompTIA Linux+/LPIC-1



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## Chapter 1 System Architecture (Domain 101)

THE FOLLOWING COMPTIA LINUX+/LPIC-1 EXAM  
OBJECTIVES ARE COVERED IN THIS CHAPTER:

- ✓ **101.1 Determine and Configure hardware settings**
  - Enable and disable integrated peripherals
  - Configure systems with or without external peripherals such as keyboards
  - Differentiate between the various types of mass storage devices
  - Know the differences between coldplug and hotplug devices
  - Determine hardware resources for devices
  - Tools and utilities to list various hardware information (e.g. lsusb, lspci, etc.)
  - Tools and utilities to manipulate USB devices
  - Conceptual understanding of sysfs, udev, hald, dbus
  - The following is a partial list of the used files, terms, and utilities:
    - /sys
    - /proc
    - /dev
    - modprobe
    - lsmod
    - lspci
    - lsusb
- ✓ **101.2 Boot the System**
  - Provide common commands to the boot loader and options to the kernel at boot time
  - Demonstrate knowledge of the boot sequence from BIOS to boot completion
  - Understanding of SysVinit and systemd
  - Awareness of Upstart
  - Check boot events in the log file
  - The following is a partial list of the used files, terms and utilities:
    - dmesg
    - BIOS
    - bootloader
    - kernel
    - initramfs
    - init
    - SysVinit

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- ✓ **101.3 Change runlevels/boot targets and shutdown or reboot system**

- Set the default runlevel or boot target
- Change between runlevels/boot targets including single user mode
- Shutdown and reboot from the command line
- Alert users before switching runlevels/ boot targets or other major system events
- Properly terminate processes
- The following is a partial list of the used files, terms and utilities:
  - /etc/inittab
  - shutdown
  - init
  - /etc/init.d
  - telinit
  - system
  - systemctl
  - /etc/systemd/
  - /usr/lib/systemd/
  - wall

1. 1. A Serial ATA (SATA) disk will use which of the following identifiers?

1. /dev/hdX
2. /dev/sataX
3. /dev/sdX
4. /disk/sataX

2. 2. Which command enables you to view the current IRQ assignments?

-

1. view /proc/irq
2. cat /proc/interrupts
3. cat /dev/irq
4. less /dev/irq

3. 3. Which device is typically connected as the first floppy disk?

1. /dev/hd0
2. /dev/flop0
3. /dev/fd0
4. /dev/sda

4. 4. Configuration of udev devices is done by working with files in which directory?

1. /udev/devices
2. /devices/
3. /udev/config
4. /etc/udev

5. 5. Which command is used to load a module and its dependencies automatically?

1. modprobe
2. lsmod
3. insmod
4. rmmmod

6. 6. Which command is used to obtain a list of USB devices?

1. usb-list

2. `lsusb`
  3. `ls -usb`
  4. `ls --usb`
7. 7. When working with hotplug devices, what is the location of scripts that are executed when a given device is inserted into the computer?
1. `/etc/usb`
  2. `/etc/usb-dev`
  3. `/dev/usb`
  4. `/etc/hotplug/usb`
8. 8. Which option given at boot time within the GRUB configuration will boot the system into single-user mode?
1. `single-user`
  2. `su`
  3. `single`
  4. `root`
9. 9. During boot of a system with GRUB, which key can be pressed to display the GRUB menu?
1. Shift
  2. E
  3. V
  4. H
10. 10. Which command can be used to view the kernel ring buffer in order to troubleshoot the boot process?
1. `lsboot`
  2. `boot-log`
  3. `krblog`
  4. `dmesg`
11. 11. During the initialization process for a Linux system using SysVinit, which runlevel corresponds to single-user mode?
1. Runlevel 5
  2. Runlevel SU
  3. Runlevel 1
  4. Runlevel 6
12. 12. On a system using SysVinit, in which directory are startup and shutdown scripts for services stored?
1. `/etc/init-d`
  2. `/etc/init`
  3. `/etc/sysV`
  4. `/etc/init.d`
13. 13. Which command can be used to reboot a system?
1. `init 6`
  2. `shutdown -h -t now`
  3. `init 1`
  4. `refresh-system`
14. 14. Which command would you use if you make changes to the `/etc/inittab` file and want those changes to be reloaded without a reboot?
1. `init-refresh`

```
2. init 6
3. telinit
4. reload-inittab
```

15. 15. Which command displays the current runlevel for a system?

```
1. show-level
2. init --level
3. sudo init
4. runlevel
```

16. 16. Within which folder are systemd unit configuration files stored?

```
1. /etc/system.conf.d
2. /lib/system.conf.d
3. /lib/systemd/system
4. /etc/sysconfd
```

17. 17. Which explanation best describes the following, gathered with the `ls -la` command?

```
lrwxrwxrwx. 1 root root 35 Jul 8 2014 .fetchmailrc ->
.configs/fetchmail/.fetchmailrc
```

```
1. It is a file called .fetchmailrc, which is linked using a symbolic link.
2. It is a file called .configs/fetchmail/.fetchmailrc, which is
   owned by lrwxrwxrwx.
3. It is a directory called .fetchmailrc, which is owned by user Jul.
4. It is a local directory called .configs/fetchmail/.fetchmailrc.
```

18. 18. Which command is used with `systemd` in order to list the available service units?

```
1. systemd list-units
2. systemctl list-units
3. systemd unit-list
4. systemctl show-units
```

19. 19. Which option to `lspci` is used to display both numeric codes and device names?

```
1. -numdev
2. -n
3. -nn
4. -devnum
```

20. 20. Which command can be used to obtain a list of currently loaded kernel modules?

```
1. insmod
2. modlist
3. ls --modules
4. lsmod
```

21. 21. Which option to the `modprobe` command shows the dependencies for a given module?

```
1. --show-options
2. --list-deps
3. --show-depends
4. --list-all
```

22. 22. Which command can you use to send a message to all users who are currently logged into a system?

1. cat
2. wall
3. tee
4. ssh

23. 23. Which of the following is a good first troubleshooting step when a hard disk is not detected by the Linux kernel?

1. Unplug the disk.
2. Check the system BIOS.
3. Restart the web server service.
4. Run the disk-detect command.

24. 24. Within which directory is information about USB devices stored?

1. /etc/usbdevices
2. /var/usb
3. /lib/sys/usb
4. /proc/bus/usb

25. 25. Which option can be added to a GRUB configuration line to set or change the root partition at boot time to /dev/sda2?

1. rootpartition={hd0,2}
2. root=/dev/sda2
3. root={hd0,3}
4. rootpartition=/dev/sda2

26. 26. Which key combination will enable you to edit the kernel options and then boot when using GRUB Legacy?

1. ESC for editing and Return to boot
2. V for editing and then Return to boot
3. E for editing and then B to boot
4. V for editing and then B to boot

27. 27. The system on which you're working recently had a hard drive failure. A new hard drive has been installed, and it has had Linux restored from backup to the drive. However, the system will not boot and instead shows a grub > prompt. Within the grub > prompt, which command will show the current partitions as seen by GRUB?

1. ls
2. showPart
3. partitionlist
4. ps

28. 28. If the kernel ring buffer has been overwritten, within which file can you look to find boot messages?

1. /var/log/bootmessages
2. /var/log/mail.info
3. /var/adm/log/boot.info
4. /var/log/dmesg

29. 29. Which command and option can be used to determine whether a given service is currently loaded?

1. systemctl --ls
2. telinit
3. systemctl status
4. sysctl -a

30. 30. Which command on a systemd-controlled system would place the system into single-user mode?

1. systemctl one
2. systemctl isolate rescue.target
3. systemctl single-user
4. systemctl runlevel one

31. 31. Which command on a system controlled by Upstart will reload the configuration files?

1. initctl reload
2. systemd reload
3. upstart --reload
4. ups -reload

32. 32. When working with a SysV system, which chkconfig option will display all services and their runlevels?

1. --reload
2. --list
3. --all
4. --ls

33. 33. A drive connected to USB will be considered to be which type of device?

1. Medium
2. Coldplug
3. Hotplug
4. Sideplug

34. 34. During the boot process, what is the next step after the kernel has taken over the initialization process and initializes devices?

1. The system BIOS initializes devices.
2. The system is placed in multi-user mode.
3. The boot loader initializes the kernel.
4. The root partition is mounted.

35. 35. A legacy PATA disk is used to boot the system. You recently added an internal DVD drive to the computer, and now the system will no longer boot. What is the most likely cause?

1. The BIOS has identified the DVD drive as the first disk, and therefore the system can no longer find the Linux partition(s).
2. The hard drive became corrupt when the DVD drive was installed.
3. The hot swap option has not been enabled in the BIOS.
4. The DVD drive is not detected by the computer and needs to be enabled first in the BIOS and then in Linux prior to installation.

36. 36. The system is using a temporary flash USB disk for data mounted at /dev/sda1. You need to remove the disk. Which of the following commands will enable the disk to be safely removed from the system?

1. usbstop /dev/sda
2. umount /dev/sda1
3. unmount /dev/sda1
4. dev-eject /dev/sda1

37. 37. Within which partition will the EFI system partition typically be mounted?

1. /etc/efi
2. /efi

3. /sys/efi
4. /boot/efi

38. 38. Assuming that a USB disk contains a single partition and is made available on /dev/sdb, which command mounts the disk in /media/usb?

1. mount /dev/sdb1 /media/usb
2. usbconnect /dev/sdb0 /media/usb
3. mount /dev/sdb0 /media/usb
4. usbmount /dev/sdb1 /media/usb

39. 39. You have connected a USB disk to the system and need to find out its connection point within the system. Which of the following is the best method for accomplishing this task?

1. Rebooting the system
2. Viewing the contents of /var/log/usb.log
3. Connecting the drive to a USB port that you know the number of
4. Running dmesg and looking for the disk

40. 40. Which of the following commands will initiate an immediate shutdown of the system?

1. shutdown -c
2. halt
3. systemd stop
4. stop-system

41. 41. Which option within a systemd service file indicates the program to execute?

1. StartProgram
2. ShortCut
3. ExecStart
4. Startup

42. 42. What is the command to display the default target on a computer running systemd?

1. systemctl defaults
2. update-rc.d defaults
3. systemctl runlevel
4. systemctl get-default

43. 43. Which option of the systemctl command will change a service so that it runs on the next boot of the system?

1. enable
2. startonboot
3. loadonboot
4. start

44. 44. Which of the following best describes the /proc filesystem?

1. /proc contains information about files to be processed.
2. /proc contains configuration files for processes.
3. /proc contains information on currently running processes, including the kernel.
4. /proc contains variable data such as mail and web files.

45. 45. Which command will retrieve information about the USB connections on a computer in a tree-like format?

1. lsusb -tree

- 2. `lsusb --tree`
- 3. `lsusb -t`
- 4. `usblist --tree`

46. 46. How many SCSI devices are supported per bus?

- 1. 7 to 15
- 2. 2 to 4
- 3. 12
- 4. 4

47. 47. What is one reason why a device driver does not appear in the output of `lsmod`, even though the device is loaded and working properly?

- 1. The use of `systemd` means that drivers are not required for most devices.
- 2. The use of `initramfs` means that support is enabled by default.
- 3. The system does not need a driver for the device.
- 4. Support for the device has been compiled directly into the kernel.

48. 48. Which option to `rmmod` will cause the module to wait until it's no longer in use to unload the module?

- 1. `-test`
- 2. `-f`
- 3. `-w`
- 4. `-unload`



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