

# LPI

## Exam Questions 201-450

LPIC-2 Exam 201 Part 1 of 2 version 4.5



**NEW QUESTION 1**

In the following output from top, which processes contribute to the percentage of time that the CPU spends in the state of wa?

Tasks: 193 total, 1 running, 190 sleeping, 2 stopped, 0 zombie  
 Cpu(s): 0.5%us, 0.3%sy, 0.0%ni, 98.2%id, 1.0%wa, 0.0%hi, 0.0%si, 0.0%st

- A. Processes waiting for user interaction.
- B. Processes that were already closed and are waiting to be launched again.
- C. Processes that have not been scheduled yet because they haven't been fully loaded into RAM or are in swap.
- D. Processes waiting for IO operations to complete.

**Answer: D**

**NEW QUESTION 2**

Which of the following is a side effect of extensive usage of swap space?

- A. The root filesystem may become full because swap space is always located on the system root partition.
- B. The overall system performance may degrade because of heavy hard disk use and memory reorganization.
- C. Since processes always exist completely in either RAM or swap, regular RAM may become unused if the kernel does not move processes back from the swap space to memory.
- D. The memory may become fragmented and slow down the access to memory page
- E. However, this can be kept to a minimum by the regular use of memfrag -d.
- F. Applications need to restart because their virtual memory addresses change to reflect memory relocation to the swap address area.

**Answer: B**

**NEW QUESTION 3**

Which commands below are useful to collect data about remote filesystem connections? (Choose TWO correct answers.)

- A. pidstat
- B. nfsiostat
- C. sadf
- D. cifsostat

**Answer: BD**

**NEW QUESTION 4**

In the following output, what percentage of time was the CPU waiting for pending I/O?

```
# vmstat 1 100
procs -----memory----- ---swap-- ----io---- --system-- ----cpu----
r b swpd free buff cache si so bi bo in cs us sy id wa
0 0 0 282120 134108 5797012 0 0 0 2 0 0 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 359 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1117 577 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 366 0 0 100 0
```

- A. 100
- B. 35.9
- C. 57.7
- D. 36.6

**Answer: A**

**NEW QUESTION 5**

In this example output, which descriptions match the purpose of the free, buff and cache columns? (Choose THREE correct answers.)

```
# vmstat 1 100
procs -----memory----- ---swap-- ----io---- --system-- ----cpu----
r b swpd free buff cache si so bi bo in cs us sy id wa
0 0 0 282120 134108 5797012 0 0 0 2 0 0 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 359 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1117 577 0 0 100 0
0 0 0 282120 134108 5797012 0 0 0 0 1007 366 0 0 100 0
```

- A. Used swap space
- B. RAM available for filesystem buffers
- C. Available free RAM
- D. RAM used for buffers
- E. RAM used for filesystem cache

**Answer: CDE**

**NEW QUESTION 6**

In the below example output, which columns detail the percent of time the CPU spent running non-kernel code and the percent of time the CPU spent running kernel code? (Choose TWO correct answers.)

```
# vmstat 1 100
procs -----memory----- ---swap-- ----io---- --system-- ----cpu----
r b swpd free buff cache si so bi bo in cs us sy id wa
```

0 0 0 282120 134108 5797012 0 0 0 2 0 0 0 0 100 0  
0 0 0 282120 134108 5797012 0 0 0 0 1007 359 0 0 100 0  
0 0 0 282120 134108 5797012 0 0 0 0 1117 577 0 0 100 0  
0 0 0 282120 134108 5797012 0 0 0 0 1007 366 0 0 100 0

- A. id
- B. us
- C. wa
- D. sy

**Answer:** BD

#### NEW QUESTION 7

What option in the collectd configuration file is required in order to define what to start monitoring?

- A. LoadModule
- B. Module
- C. Plugin
- D. LoadPlugin

**Answer:** D

#### NEW QUESTION 8

In the following output, what is the 5 minute load average for the system?

```
# uptime  
12:10:05 up 18 days, 19:00, 2 users, load average: 0.47, 24.71, 35.31
```

- A. 0.47
- B. 24.71
- C. 35.31
- D. There is no 5 minute interval
- E. It is some value between 0.47 and 24.71.
- F. There is no 5 minute interval
- G. It is some value between 24.71 and 35.31.

**Answer:** B

#### NEW QUESTION 9

Which commands are used to load modules into the Linux kernel? (Choose TWO correct answers.)

- A. insmod
- B. loadmod
- C. kernload
- D. modprobe
- E. probemod

**Answer:** AD

#### NEW QUESTION 10

Which directory contains the system-specific udev rule files? (Specify the absolute path including the directory name)

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

/etc/udev/rules.d, /etc/udev/rules.d/

#### NEW QUESTION 10

What is the correct parameter to pass to the kernel at boot time to force it to use only one of the available processors?

- A. maxcpus=1
- B. usecpus=1
- C. smpcpus=1
- D. vcpumx=1

**Answer:** A

#### NEW QUESTION 12

A new kernel version needs to be compiled to use a new feature. If the old kernel configuration file is available, which make target creates a configuration file for the new kernel based on the configuration of the old kernel?

- A. Mastered
- B. Not Mastered

**Answer:**

A

**Explanation:**

oldconfig, make oldconfig

**NEW QUESTION 15**

What is a key difference between a zImage and bzImage kernel image?

- A. zImage is compressed using gzip, bzImage is compressed using bzip2.
- B. zImage is for 2.6 series kernels, bzImage is for 3.x series kernels.
- C. zImage is limited to 64k, bzImage has no such restriction.
- D. zImage gets loaded completely into low memor
- E. bzImage will load into high memory once low memory is full.

**Answer:** D

**NEW QUESTION 20**

After configuring a new kernel, what file under /usr/src/linux/ contains the configuration?

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

/usr/src/linux/.config, .config

**NEW QUESTION 23**

Which of the following command sequences can be used to extract files contained in a initramfs file (/boot/initramfs) which is used by the kernel at boot time?

- A. cp /boot/initramfs /tmp/initramfs.gz; gzip -c /tmp/initramfs.gz; mkdir /tmp/initramfs.dir ; cd/tmp/initramfs.dir ; cpio -i < /tmp/initramfs
- B. cp /boot/initramfs /tmp/initramfs.gz; gunzip /tmp/initramfs.gz; mkdir /tmp/initramfs.dir ; cd/tmp/initramfs.dir ; cpio -i < /tmp/initramfs
- C. cp /boot/initramfs /tmp/initramfs.gz; gunzip /tmp/initramfs.gz; mount /tmp/initramfs /mnt/ -o loop -t initramfs
- D. cp /boot/initramfs /tmp/initramfs.gz; gunzip /tmp/initramfs.gz; mkdir /tmp/initramfs.dir ; cd/tmp/initramfs.dir ; cpio -e /tmp/initramfs
- E. cp /boot/initramfs /tmp/initramfs.gz; gunzip /tmp/initramfs.gz; mount /tmp/initramfs /mnt/ -o loop -t initrd

**Answer:** B

**NEW QUESTION 27**

After installing a compiled kernel, it can not find any modules that are needed to be loaded. What make target was likely missed while installing the kernel?

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

make modules\_install, modules\_install

**NEW QUESTION 29**

What information does the file modules.dep provide?

- A. A list of all modules, compiled or not, that are available to the kernel.
- B. A list of modules trusted by the installed kernel.
- C. A list of devices and their module name.
- D. A list of all compiled modules and their dependencies.
- E. A list of modules the kernel needs to run.

**Answer:** D

**NEW QUESTION 30**

Which keyword is used in the /etc/inittab file to define the SysV-init default system runlevel?

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

initdefault

**NEW QUESTION 34**

What happens if the Linux kernel can't mount the root filesystem when booting?

- A. An error message is shown and the administrator is asked by the kernel to specify a valid root filesystem to continue the boot process.

- B. An error message is shown and the system reboots after a keypress.
- C. An error message is shown and the system boots in maintenance mode.
- D. An error message is shown showing which device couldn't be mounted or informing that init couldn't be found.
- E. An error message is shown stating that the corresponding kernel module couldn't be loaded.

**Answer:** D

#### NEW QUESTION 36

A server requires a GRUB2 boot option which will always boot to runlevel 1. Which line of a GRUB2 configuration file starts the beginning of the settings needed to make this new choice available?

- A. initrd
- B. linux
- C. menuentry
- D. runlevel

**Answer:** B

#### NEW QUESTION 41

How can the label root be added to the ext2 filesystem on /dev/sda1?

- A. relabel /dev/sda1 root
- B. tune2fs -L root /dev/sda1
- C. echo 'root' > /proc/fs/sda1/label
- D. labelfs --device /dev/sda1 root

**Answer:** B

#### NEW QUESTION 42

Which of the following are common Linux filesystem types used for root partitions? (Choose THREE correct answers.)

- A. ext4
- B. VFAT
- C. NTFS
- D. XFS
- E. Btrfs

**Answer:** ADE

#### NEW QUESTION 47

After a lot of write operations, the administrator want to ensure that the kernel flushes the file system buffers to disk. Which command will accomplish this? (Specify ONLY the command without any path or parameters.)

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

sync

#### NEW QUESTION 52

What is the main template file used by autofs?

- A. default.maps
- B. auto.conf
- C. auto.master
- D. autofs.master

**Answer:** C

#### NEW QUESTION 56

What does a 0 in the last field (fsck order) of /etc/fstab indicate about the filesystem?

- A. The filesystem should be checked before filesystems with higher values.
- B. The filesystem should be checked after filesystems with higher values.
- C. The filesystem check counter is ignored.
- D. The filesystem has been disabled from being checked and mounted on the system.
- E. The filesystem does not require an fsck check when being mounted.

**Answer:** E

#### NEW QUESTION 57

The correct command sequence to create and mount logical volumes on a Linux system is:

- A. lvcreate, pvcreate, vgcreate, mkfs, mount
- B. pvcreate, vgcreate, lvcreate, mkfs, mount
- C. vgcreate, lvcreate, pvcreate, mount, mkfs
- D. mkfs, pvcreate, vgcreate, lvcreate, mount
- E. pvcreate, lvcreate, vgcreate, mkfs, mount

**Answer:** B

#### NEW QUESTION 62

What keyword is missing in the following line from /etc/fstab in order to make a USB flash device writeable by the user fred when mounted:  
/dev/sda1 /mnt/usbflash vfat defaults,users, \_\_\_\_\_ =fred,umask=022, 0 0  
(Provide the option name only without any settings)

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**  
uid

#### NEW QUESTION 65

What is the purpose of the command vgextend?

- A. Extend a volume group's footprint on disk.
- B. Add physical volumes to an existing volume group.
- C. Increase the number of days between scheduled error checking.
- D. Create a volume group which uses all available space on disk.

**Answer:** B

#### NEW QUESTION 68

Which of the following is an example path to a Linux software RAID array?

- A. /dev/raid0
- B. /dev/rd1
- C. /dev/pr0
- D. /dev/md1

**Answer:** D

#### NEW QUESTION 73

What command will remove a physical volume from a volume group? (Specify ONLY the command without any path or parameters.)

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**  
vgreduce, /sbin/vgreduce

#### NEW QUESTION 77

Which of the following commands is used to set up a RAID volume?

- A. makerd
- B. mdadm
- C. mkfs.raid
- D. makeraid
- E. rdconfig

**Answer:** B

#### NEW QUESTION 79

What action should be performed after increasing the size of a logical volume?

- A. Run vgresize.
- B. Increase the size of the filesystem used for the logical volume.
- C. Run lvresize.
- D. Remount the logical volume.

**Answer:** B

#### NEW QUESTION 83

Which program lists information about files and network connections opened by processes? (Specify ONLY the command without any path or parameters.)

- A. Mastered
- B. Not Mastered

**Answer:** A

**Explanation:**

Isof, /usr/bin/Isof

**NEW QUESTION 86**

What should be done after updating the configuration file for syslogd in order to make the changes become effective? (Choose TWO correct answers.)

- A. No action is required, syslogd will notice the updated configuration file after a few minutes.
- B. Send the HUP signal to the syslogd process.
- C. Restart the syslogd service.
- D. Run the command `syslogd -u`.

**Answer:** BC

**NEW QUESTION 89**

What should be done to ensure a client machine uses the recursive nameserver running on the IP address 192.168.1.1 ? (Choose TWO correct answers.)

- A. Add nameserver 192.168.0.1 to `/etc/resolv.conf`.
- B. Run `route add nameserver 192.168.0.1`.
- C. Run `ifconfig eth0 nameserver 192.168.0.1`.
- D. Ensure that the dns service is listed in the hosts entry in the `/etc/nsswitch.conf` file.
- E. Run `bind add nameserver 192.168.0.1`.

**Answer:** AD

**NEW QUESTION 93**

Which `/etc/hosts.allow` entries will permit access to sshd for users from the 192.168.1.0/24 subnet? (Choose TWO correct answers.)

- A. `sshd : 192.168.1.`
- B. `sshd : 192.168.1`
- C. `sshd : 192.168.1.0 netmask 255.255.255.0`
- D. `sshd : 192.168.1.0/255.255.255.0`
- E. `sshd : 192.168.1.0`

**Answer:** AD

**NEW QUESTION 98**

Which of the following commands will list the IPv4 neighbors of the current system? This includes IP and MAC addresses. (Choose TWO correct answers.)

- A. `arp`
- B. `ifconfig -lv eth0`
- C. `netstat -al`
- D. `ip neigh show`

**Answer:** AD

**NEW QUESTION 103**

The following is an excerpt from the output of `tcpdump -nli eth1`:

13:03:17.277327 IP 192.168.123.5.1065 > 192.168.5.112.21: Flags [.] , ack 1 (truncated)

13:03:17.598624 IP 192.168.5.112.21 > 192.168.123.5.1065: Flags [P.] , seq (truncated)

Which network service or protocol was used?

- A. FTP
- B. HTTP
- C. SSH
- D. DNS
- E. DHCP

**Answer:** A

**NEW QUESTION 106**

What is the command to add another IP address (192.168.1.2) to a network interface (eth0) that already has (at least) one IP address in the 192.168.1.0/24 subnet?

- A. `ip add addr 192.168.1.2/32 dev eth0`
- B. `ifconfig eth0 192.168.1.2 netmask 255.255.255.255`
- C. `ip addr add 192.168.1.2/32 dev eth0`
- D. `ipconfig eth0 192.168.1.2`

**Answer:** C

#### NEW QUESTION 108

Which of the following commands will securely copy the directory `./fyf/` to `/var/tmp/` on the remote host `deltaur` using the remote user account `kevin`?

- A. `rsync -a -e ssh kevin@deltaur:/var/tmp/ fyf/`
- B. `rsync -a -u kevin -e ssh fyf/ deltaur:/var/tmp/`
- C. `rsync -a -u kevin -e ssh deltaur:/var/tmp/ fyf/`
- D. `rsync -a -e ssh fyf/ kevin@deltaur:/var/tmp/`

**Answer:** D

#### NEW QUESTION 111

What is the device name for the first SCSI tape drive on a system when used without automatic rewinding after each write operation? (Please specify the full path to the device.)

- A. Mastered
- B. Not Mastered

**Answer:** A

#### Explanation:

`/dev/nst0`

#### NEW QUESTION 114

Which one of these directories should not be backed up?

- A. `/backup`
- B. `/etc`
- C. `/opt`
- D. `/proc`
- E. `/var/log`

**Answer:** D

#### NEW QUESTION 116

The following command has just been run successfully: `cd /opt; tar xvf /dev/nst0;`  
What will happen if the command sequence is run again?

- A. An error saying that there is no tape present is generated because the tape has been ejected after being used.
- B. The contents of `/opt` will be restored again.
- C. The entire contents of `/opt` will be replaced with the contents of the next file on the tape.
- D. The contents of `/opt` will have additional content added from the next file on the tape.

**Answer:** D

#### NEW QUESTION 120

Which of the following commands erases the contents of the `/dev/sdb3` partition?

- A. `rm /dev/sdb3`
- B. `dd if=/dev/zero of=/dev/sdb3`
- C. `dd of=/dev/zero if=/dev/sdb3`
- D. `umount /dev/sdb3`

**Answer:** B

#### NEW QUESTION 125

Which of the following properties should be recorded in order to monitor the quality of a network link? (Choose two.)

- A. Bandwidth in both directions
- B. Number of nodes using the link
- C. Effective Latency
- D. Number of IPv4 and IPv6 packets
- E. Number of used TCP ports

**Answer:** AC

#### NEW QUESTION 127

Which of the following commands creates a Btrfs subvolume named `volume` in `/mnt`?

- A. `btrfs subvolume add -n volume /mnt`
- B. `btrfs create subvolume /mnt volume`
- C. `btrfs-subvolume create /mnt/volume`
- D. `btrfs subvolume new volume /mnt`
- E. `btrfs subvolume create /mnt/volume`

**Answer:** E

#### NEW QUESTION 128

What effect does the `-f` option to the `update-rc.d` command have on files in the `/etc/rcX.d/` and `/etc/init.d/` directories?

- A. It will force the removal of the symlinks in `/etc/rcX.d/` even when the links are read only
- B. It will remove both the symlinks in `/etc/rcX.d/` and the init script in `/etc/init.d/`
- C. It will remove the init script in `/etc/init.d/` and the symlinks in `/etc/rcX.d/` and update the package information of installed files
- D. It will force the removal of symlinks in `/etc/rcX.d/` even if the corresponding init script still exists in `/etc/init.d/`

Answer: D

#### NEW QUESTION 129

What command is used to send messages to all users currently logged in? (Specify ONLY the command without any path or parameters.)

- A. Mastered
- B. Not Mastered

Answer: A

#### Explanation:

wall

#### NEW QUESTION 132

Which of the following commands displays the physical path of the kernel module named `dummy`?

- A. `modprobe -i dummy`
- B. `modinfo -n dummy`
- C. `modpath -v dummy`
- D. `depmod -n dummy`
- E. `modshow -p dummy`

Answer: A

#### NEW QUESTION 137

What is the purpose of a system mount unit?

- A. It is used by the command `systemd-mount` and allows users to mount partitions to mount points of their choice
- B. It is used only to mount network file systems to local mount point
- C. It cannot be used for local media
- D. It is created by the command `systemd-fstab-generator` to integrate entries from `/etc/fstab` into the system boot process
- E. It is used by the command `mount` when using `system` to mount and unmount file systems

Answer: A

#### NEW QUESTION 139

Which of the following commands adds a static IPv6 address to the network interface `eth0`?

- A. `ip add addr 2001:db8::1337/64 dev eth0`
- B. `ip -6 add addr 2001:db8::1337/64 dev eth0`
- C. `ip addr add 2001:db8::1337/64 dev eth0`
- D. `ip -6 addr add new 2001:db8::1337/64 dev eth0`
- E. `ip addr add -6 2001:db8::1337/64 dev eth0`

Answer: D

#### NEW QUESTION 144

In the output of `sar -b`, what does `tps` stand for?

- A. Terrabyte per second
- B. Traffic per second
- C. Transfers per second
- D. Total data per second
- E. Terrabit per second

Answer: C

#### NEW QUESTION 145

A Linux server running `systemd` booted to `rescue.target` for maintenance. Which commands are used to restore the server to its usual target? (Choose two.)

- A. `telinit 0`
- B. `systemctl default`
- C. `sync`
- D. `systemctl emergency`
- E. `systemctl reboot`

Answer: AB

#### NEW QUESTION 146

Which of the following commands shows capabilities and usable frequencies for the wireless interface wlan0?

- A. iw phy phy0 info
- B. iw dev wlan0 info
- C. iw dev wlan0 show
- D. iw phy wlan0 show
- E. iw phy0 show

**Answer:** A

#### NEW QUESTION 151

Which of the following init systems comes along with an own UEFI boot loader?

- A. systemd
- B. SysVinit
- C. Upstart
- D. OpenRC
- E. launchd

**Answer:** A

#### NEW QUESTION 152

In order to gather performance data with sar over a longer period of time, which command should be run periodically from cron?

- A. sa1
- B. sarmon
- C. sarec
- D. sadf
- E. sarcron

**Answer:** A

#### NEW QUESTION 154

Which of the following commands restores only those files containing lpi in their name from the archive lpifiles.tar.gz?

- A. tar xvzf lpifiles.tar.gz --wildcards '\*lpi\*'
- B. tar xvzwf lpifiles.tar.gz '\*lpi\*'
- C. tar -xvzf lpifiles.tar.gz --deep '\*lpi\*'
- D. tar -xvzf lpifiles.tar.gz --subdirs '\*lpi\*'
- E. tar xvzf lpifiles.tar.gz --globbing '\*lpi\*'

**Answer:** A

#### NEW QUESTION 158

In which directory tree are files modified when changing kernel parameters using the command sysctl?

- A. /sys/kernel/
- B. /proc/kernel/
- C. /proc/sys/
- D. /lib/sys/
- E. /sys/proc/

**Answer:** C

#### NEW QUESTION 162

What is the purpose of an initramfs during the Linux system start?

- A. It loads required modules and starts sub systems like LVM to make the root file system accessible to the kernel
- B. It moves the kernel from normal system memory to initram memory to speed up kernel access
- C. It copies the root file system's content to RAM to speed up the system and reduce writes to disk
- D. It creates a ram disk to store volatile data for directories like /tmp to reduce writes to disk

**Answer:** A

#### NEW QUESTION 167

Which command is used to install a GRUB boot loader into the master boot record?

- A. grub-install
- B. grub-mkconfig
- C. grub-install-mbr
- D. grub-glue-mbr
- E. grub-mbr-setup

**Answer:** A

**NEW QUESTION 172**

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