

Version: 9.0

Question: 1

In capacity planning exercises, which tools assist in listing and identifying processes of interest? (Choose TWO correct answers.)

- A. acpid
- B. lsof
- C. pstree
- D. telinit

Answer: B, C

Question: 2

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

Question: 3

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: B, D

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 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. 0
- B. 100
- C. 35.9
- D. 57.7
- E. 36.6

Answer: A

Question: 5

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

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

Answer: B, D

Question: 6

In the following output, the load averages represent the system load averages for what time frames?

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

- A. 1, 5 and 15 minutes
- B. 1, 15 and 30 minutes
- C. 1, 15, and 30 seconds
- D. 15, 30 and 60 minutes
- E. 15, 30 and 60 seconds

Answer: A

Question: 7

When planning a web server which of the following choices will impact system sizing? (Choose THREE correct answers.)

- A. How many concurrent users are expected.
- B. Which hardware vendor has better Linux support.
- C. What type of content will be served.
- D. What scripting languages will the web server support.
- E. Will the OS install be CD, DVD or network based.

Answer: A, C, D

Question: 8

What mechanism does collectd use to gather monitoring information on systems?

- A. It uses a library of plugins.
- B. A master server connects to a collectd service on each machine to retrieve the information.
- C. It collects its own information on each server and sends that to a master server.
- D. It makes SNMP queries to the clients being monitored.

Answer: A

Question: 9

Which of the following tools are used to measure memory usage? (Choose THREE correct answers.)

- A. mpstat
- B. pstree
- C. sar
- D. top
- E. vmstat

Answer: C, D, E

Question: 10

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 pages. However, this can be kept to a minimum by the regular use of memfrag -d.

E. Applications need to restart because their virtual memory addresses change to reflect memory relocation to the swap address area.

Answer: B

Question: 11

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 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: C, D, E

Question: 12

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. It is some value between 0.47 and 24.71.

E. There is no 5 minute interval. It is some value between 24.71 and 35.31.

Answer: B

Question: 13

Which of the following commands will provide the PIDs of the processes sorted by which are using the most CPU cycles on the Linux system?

- A. top
- B. uptime
- C. ps aux
- D. vmstat
- E. freemem

Answer: A

Question: 14

Which command will report information on memory usage, paging and block input/output?

- A. free
- B. memshow
- C. ps
- D. top
- E. vmstat

Answer: E

Question: 15

When is historical data of resource usage important? (Select THREE correct answers.)

- A. Predicting when resources will need to be increased.
- B. Selecting a computer vendor.
- C. Identifying processes killed during out of memory occurrences.
- D. Diagnosing capacity problems.
- E. Troubleshooting a software problem.

Answer: A, D, E

Question: 16

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

Question: 17

Which of the following terms are used to describe 3.x kernel releases? (Choose TWO correct answers.)

- A. beta
- B. final
- C. longterm
- D. prerelease
- E. stable

Answer: C, E

Question: 18

According to the Filesystem Hierarchy Standard (FHS), what is the path to the Linux kernel source and may be a symbolic link to the real Linux source code? (Please specify the full path with no version information.)

Answer:
`/usr/src/linux,`
`/usr/src/linux/`

Question: 19

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?

Answer: make
`modules_install,`
`modules_install`

Question: 20

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?

Answer: oldconfig,
`make oldconfig`

Question: 21

How can the kernel parameter for the maximum size of the shared memory segment (shmmax) be

changed to 2GB (2147483648 Bytes) on a running system? (Choose TWO correct answers.)

- A. Edit /etc/shmmax and set the parameter to 2147483648.
- B. sysctl shmmax=2147483648
- C. sysctl kernel.shmmax=2147483648
- D. echo 2147483648 > /proc/sys/kernel/shmmax
- E. export kernel.shmmax=2147483648

Answer: C, D

Question: 22

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

Question: 23

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: A, D

Question: 24

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

Answer:
/etc/udev/rules.d,
/etc/udev/rules.d/

Question: 25

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 memory. bzImage will load into high memory once low memory is full.

Answer: D
