



# LPI

## Exam 304-200

### LPI Level 3 Exam 304

Version: 7.0

[ Total Questions: 120 ]

### Topic break down

Topic	No. of Questions
Topic 1: Virtualization	72
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## Topic 1, Virtualization

### Question No : 1 - (Topic 1)

Which of the following is true regarding the CPU of a KVM virtual machine? (Choose TWO correct answers.)

- A. Each KVM virtual machine can only have one CPU with one core.
- B. KVM virtual machines support multiple virtual CPUs in order to run SMP systems.
- C. The CPU architecture of a KVM virtual machine is independent of the host system's architecture.
- D. For each KVM virtual machine one dedicated physical CPU core must be reserved.
- E. KVM uses the concept of virtual CPUs to map the virtual machines to physical CPUs.

**Answer: B,E**

### Question No : 2 - (Topic 1)

Which of the following tasks are part of a hypervisor's responsibility? (Choose TWO correct answers.)

- A. Create filesystems during the installation of new VM guest operating systems.
- B. Provide host-wide unique PIDs to the processes running inside the VMs in order to ease interprocess communication between virtual machines.
- C. Map the resources of virtual machines to the resources of the host system.
- D. Ensure isolation and eliminate any interference between virtual machines.
- E. Manage authentication to network services running inside a virtual machine.

**Answer: C,D**

### Question No : 3 - (Topic 1)

Which of the following KVM monitor commands changes the image file in the first IDE CDROM drive of a virtual machine?

- A. change ide1-cd0 /tmp/linux.iso
- B. update ide1-cd0 /tmp/linux.iso
- C. set ide1-cd0=/tmp/linux.iso

- D. eject --reconnect ide1-cd0 /tmp/linux.iso
- E. disc file=/tmp/linux.iso,device=/dev/sr0

**Answer: A**

**Question No : 4 CORRECT TEXT - (Topic 1)**

Which subcommand of virsh opens the XML configuration of a virtual network in an editor in order to make changes to that configuration? (Specify ONLY the subcommand without any parameters.)

**Answer: virsh net-edit, net-edit**

**Question No : 5 CORRECT TEXT - (Topic 1)**

In the command

vzctl \_\_\_\_ 105 /usr/bin/apt-get install wget

which subcommand of vzctl is missing in order to install wget in the OpenVZ container 105?

**Answer: exec, exec2**

**Question No : 6 - (Topic 1)**

Which command within virsh lists the virtual machines that are available on the current host?

- A. view
- B. show
- C. list-vm
- D. list
- E. list-all

**Answer: D**

**Question No : 7 - (Topic 1)**

Which of the following statements is true regarding the following output of xl list:

Name ID Mem VCPUs State Time(s)

Domain-0 0 384 1 r----- 498.7

Debian 2 305 1 --p--- 783.5

Slack 6 64 1 -b----- 313.6

CentOS 7 512 2 r----- 455.1

- A. It is necessary to use the xl command to change Slack's state to running.
- B. CentOS is the domain which has consumed the most CPU time.
- C. The domain with ID 2 uses paravirtualization.
- D. Both Debian and Slack require xl commands to start running.
- E. Slack is idle or waiting for I/O.

**Answer: E**

**Question No : 8 CORRECT TEXT - (Topic 1)**

In order to determine if a virtualization host offers Intel VT-x support, which CPU flag must be searched for in the file /proc/cpuinfo? (Specify the name of the CPU flag as it is mentioned in the given file only without any additional information.)

**Answer: vmx, VMX**

**Question No : 9 - (Topic 1)**

Which CPU flag indicates the hardware virtualization capability on an AMD CPU?

- A. SVM
- B. VIRT

- C. VMX
- D. PVM
- E. HVM

**Answer: A**

**Question No : 10 - (Topic 1)**

Which of the following statements are true for full virtualization? (Choose TWO correct answers.)

- A. Full virtualization does not require changes to the guest operating systems.
- B. Full virtualization has no performance impact compared to a non-virtualized bare-metal installation on the same machine.
- C. Full virtualization has a severe performance impact and should not be used in production environments.
- D. Full virtualization may be supported by special CPU extensions that provide better performance.
- E. Full virtualization always requires additional software components and cannot be done using Linux only.

**Answer: A,D**

**Question No : 11 - (Topic 1)**

Which of the following statements are true regarding VirtualBox?

- A. It supports only Linux as a guest operating system.
- B. It is available for Linux only.
- C. It provides both a graphical user interface and command line tools to administer virtual machines.
- D. It requires dedicated shared storage as it cannot store virtual machine disk images locally on block devices of the virtualization host.
- E. It is a special kernel booted before the first regular operating system.

**Answer: C**

**Question No : 12 - (Topic 1)**

Which of the following KVM parameters is identical to the KVM parameter -hdb file.img?

- A. -drive bus=ide1,type=slave,image=file.img
- B. -drive image=file.img,if=ide,device=hdb
- C. -drive bus=hd,busid=b,src=file.img
- D. -drive file=file.img,index=1,media=disk,if=ide
- E. -drive type=loop,src=file.img,dst=disk:hdb

**Answer: D**

**Question No : 13 - (Topic 1)**

Which of the following data should be copied to the virtual machine when migrating a physical machine to a virtual machine?

- A. The block device buffers
- B. The CPU flags
- C. The file systems or their content
- D. The CPU register's content
- E. The memory

**Answer: C**

**Question No : 14 - (Topic 1)**

Which of the following statements is true regarding VirtualBox?

- A. VirtualBox uses container-based virtualization and can only run virtual machines using the operating system of the host system.
- B. VirtualBox can only be run from a graphical desktop environment and not from the text console.
- C. VirtualBox provides special device drivers for several operating systems to enhance the virtual machine's performance.
- D. VirtualBox contains a hypervisor that runs independently from any other operating system on a bare metal host.
- E. VirtualBox is part of the vanilla Linux kernel and does not require any additional software installation on recent Linux distributions.

**Answer: C**

**Question No : 15 - (Topic 1)**

Which statement is true regarding the Linux kernel module that must be loaded in order to use KVM?

- A.** It must be loaded into the kernel of each virtual machine to provide paravirtualization which is required by KVM.
- B.** It must be loaded into the kernel of the host system in order to use the virtualization extensions of the host system's CPU.
- C.** It must be loaded into the kernel of the host system only if the console of a virtual machine will be connected to a physical console of the host system.
- D.** It must be loaded into the kernel of each virtual machine that will access files and directories from the host system's file system.
- E.** It must be loaded into the kernel of the first virtual machine as it interacts with the KVM bare metal hypervisor and is required to trigger the start of additional virtual machines.

**Answer: B**

**Question No : 16 - (Topic 1)**

Which of the following statements is true regarding XenStore?

- A.** It is a web interface used to provide self-service domain provisioning to users with sufficient privileges.
- B.** It saves the persistent configuration of all defined Xen domains and restores them when the host system is started.
- C.** It manages disk file images on behalf of all virtual machines and provides them as virtual devices to guest domains.
- D.** It stores run time information regarding Xen and its domains using hierarchical namespaces shared between domains.
- E.** It is a software repository located within the host system used to provide software packages to the guest domains.

**Answer: D**

**Question No : 17 - (Topic 1)**



How can data in a computing instance in an IaaS cloud be permanently saved and accessed even after the recreation of the computing instance? (Choose TWO correct answers.)

- A. By saving the data to the memory of the computing instance using tmpfs.
- B. By saving the data anywhere in the computing instance's file system.
- C. By saving the data to /cloud/persistent/ which is provided in all common IaaS clouds.
- D. By saving the data to object stores provided by a separate service in the cloud.
- E. By saving the data on persistent block devices that must be explicitly connected to the computing instance.

**Answer: D,E**

**Question No : 18 CORRECT TEXT - (Topic 1)**

Which command was used in Xen 3.x as a predecessor of the xl command? (Specify ONLY the command without any path or parameters.)

**Answer: xm**

**Question No : 19 - (Topic 1)**

When migrating a physical machine to a full virtualized machine, which of the following properties should be expected to change from the perspective of the guest operating system? (Choose TWO correct answers.)

- A. The user accounts within the guest operating system.
- B. The properties of the CPU and other hardware devices.
- C. The MAC address of the network interfaces.
- D. The version of the guest operating system.
- E. The software and applications installed on the guest system.

**Answer: B,C**

**Question No : 20 - (Topic 1)**

When KVM is launched with the parameter -boot order=n, which of the following devices

will be searched for a bootable operating system?

- A. All floppy, CDROM, and hard disk drives in that order.
- B. No devices are searched and the user is prompted to choose the boot device.
- C. All network interfaces attached to the VM.
- D. All hard disks and no other devices.
- E. No devices are searched in order to support directly booting a Linux kernel.

**Answer: C**

**Question No : 21 - (Topic 1)**

Which of the following statements describes the concept behind paravirtualization?

- A. Guest operating systems are modified to actively cooperate with the hypervisor in order to ease virtualization costs and gain better performance.
- B. Instead of running full virtual machines, containers are used to separate distinct parts of one commonly shared operating system that appear as a virtual machine.
- C. To avoid the need for virtualization, special security measures are taken to allow different applications to coexist on one physical machine.
- D. Each operating system is trusted to use only those resources assigned to it, thereby eliminating the need of an additional virtualization layer.

**Answer: A**

**Question No : 22 - (Topic 1)**

Which of the following statements are true about container-based virtualization? (Choose TWO correct answers.)

- A. All containers run within the operating system kernel of the host system.
- B. Different containers may use different distributions of the same operating system.
- C. Each container runs its own operating system kernel.
- D. Container-based virtualization relies on hardware support from the host systems CPU.
- E. Linux does not support container-based virtualization because of missing kernel APIs.

**Answer: A,B**

**Question No : 23 CORRECT TEXT - (Topic 1)**

What is the name of the global configuration file for the xl tool stack? (Specify the file name only without any path.)

**Answer:** /etc/xen/xl.conf, xl.conf

**Question No : 24 - (Topic 1)**

Which of the following commands are needed to establish a private network between two (or more) KVM virtual machines that is not visible to other KVM instances on the same KVM host? (Choose THREE correct answers.)

- A. ifconfig
- B. brctl
- C. tuncctl
- D. ipconfig
- E. ebtables

**Answer:** A,B,C

**Question No : 25 - (Topic 1)**

After the Xen guest configuration file debian.cfg has been created and successfully tested, which additional action must be performed in order to make this Xen guest start automatically every time the host system boots?

- A. It is necessary to add xendomains\_auto = yes to the virtual machine configuration file.
- B. It is necessary to add an entry for debian.cfg to the file /etc/xen/guesttab.
- C. It is necessary to run the command xl autostart debian.cfg.
- D. It is necessary to add a symbolic link to the configuration file in the /etc/xen/auto/ directory.
- E. It is not possible to use Xen and its tools to start virtual machines automatically.

**Answer:** D

**Question No : 26 - (Topic 1)**

Which of the following statements are true regarding resource management for full virtualization? (Choose TWO correct answers.)

- A. The hypervisor may provide fine-grained limits to internal elements of the guest operating system such as the number of processes.
- B. Full virtualization cannot pose any limits to virtual machines and always assigns the host system's resources in a first-come-first-serve manner.
- C. It is up to the virtual machine to use its assigned hardware resources and create, for example, an arbitrary amount of network sockets.
- D. The hypervisor provides each virtual machine with hardware of a defined capacity that limits the resources of the virtual machine.
- E. All processes created within the virtual machines are transparently and equally scheduled in the host system for CPU and I/O usage.

**Answer: C,D**

**Question No : 27 - (Topic 1)**

When preparing a public machine image for the provisioning of new cloud computing instances, which of the following steps should be done? (Choose TWO correct answers.)

- A. Remove all default users and groups, including root and nobody.
- B. Remove all configuration files from /etc/ that were not manually modified.
- C. Remove all confidential data from the image.
- D. Remove all remote login services (i.e. SSH) from the image.
- E. Remove all private SSH keys from the image.

**Answer: C,E**

**Question No : 28 CORRECT TEXT - (Topic 1)**

Which sub-command of xl changes the media inside a virtual CD-ROM drive of a Xen guest domain? (Specify ONLY the sub-command without any path or parameters.)

**Answer: block-attach, xl cd-insert, cd-eject, xl cd-eject, cd-insert, xl block-attach, block-detach, xl block-detach**