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#1 Online Certification Guide

LPI 304-200

LPI LPIC-3 Certification Questions & Answers

Exam Summary – Syllabus –Questions

304-200
LPIC-3 Virtualization and High Availability
60 Questions Exam – 500/800 Cut Score – Duration of 90 minutes

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Know Your 304-200 Certification Well:

The 304-200 is best suitable for candidates who want to gain knowledge in the LPI Linux System Administration. Before you start your 304-200 preparation you may struggle to get all the crucial LPIC-3 materials like 304-200 syllabus, sample questions, study guide.

But don't worry the 304-200 PDF is here to help you prepare in a stress free manner.

The PDF is a combination of all your queries like-

- What is in the 304-200 syllabus?
- How many questions are there in the 304-200 exam?
- Which Practice test would help me to pass the 304-200 exam at the first attempt?

Passing the 304-200 exam makes you LPIC-3 Virtualization and High Availability. Having the LPIC-3 certification opens multiple opportunities for you. You can grab a new job, get a higher salary or simply get recognition within your current organization.

LPI 304-200 LPIC-3 Certification Details:

Exam Name	LPIC-3 Virtualization and High Availability
Exam Code	304-200
Exam Price	$200 (USD)
Duration	90 mins
Number of Questions	60
Passing Score	500 / 800
Schedule Exam	**LPI Marketplace**
Sample Questions	**LPI LPIC-3 Sample Questions**
Practice Exam	**LPI 304-200 Certification Practice Exam**

304-200 Syllabus:

Topic	Details
	Virtualization
Virtualization Concepts and Theory	**Weight:** 8 **Description:** Candidates should know and understand the general concepts, theory and terminology of Virtualization. This includes Xen, KVM and libvirt terminology. **Key Knowledge Areas:** - Terminology - Pros and Cons of Virtualization - Variations of Virtual Machine Monitors - Migration of Physical to Virtual Machines - Migration of Virtual Machines between Host systems - Cloud Computing **The following is a partial list of the used files, terms and utilities:** - Hypervisor - Hardware Virtual Machine (HVM) - Paravirtualization (PV) - Container Virtualization - Emulation and Simulation - CPU flags - /proc/cpuinfo - Migration (P2V, V2V) - IaaS, PaaS, SaaS
Xen	**Weight:** 9 **Description:** Candidates should be able to install, configure, maintain, migrate and troubleshoot Xen installations. The focus is on Xen version 4.x. **Key Knowledge Areas:** - Xen architecture, networking and storage - Xen configuration - Xen utilities - Troubleshooting Xen installations - Basic knowledge of XAPI - Awareness of XenStore - Awareness of Xen Boot Parameters - Awareness of the xm utility

Topic	Details
	Terms and Utilities: - Domain0 (Dom0), DomainU (DomU) - PV-DomU, HVM-DomU - /etc/xen/ - xl - xl.cfg - xl.conf - xe - xentop
KVM	**Weight:** 9 **Description:** Candidates should be able to install, configure, maintain, migrate and troubleshoot KVM installations. **Key Knowledge Areas:** - KVM architecture, networking and storage - KVM configuration - KVM utilities - Troubleshooting KVM installations **Terms and Utilities:** - Kernel modules: kvm, kvm-intel and kvm-amd - /etc/kvm/ - /dev/kvm - kvm - KVM monitor - qemu - qemu-img
Other Virtualization Solutions	**Weight:** 3 **Description:** Candidates should have some basic knowledge and experience with alternatives to Xen and KVM. **Key Knowledge Areas:** - Basic knowledge of OpenVZ and LXC - Awareness of other virtualization technologies - Basic knowledge of virtualization provisioning tools **Terms and Utilities:** - OpenVZ - VirtualBox - LXC - docker

Topic	Details
	- packer - vagrant
Libvirt and Related Tools	**Weight:** 5 **Description:** Candidates should have basic knowledge and experience with the libvirt library and commonly available tools. **Key Knowledge Areas:** - libvirt architecture, networking and storage - Basic technical knowledge of libvirt and virsh - Awareness of oVirt **Terms and Utilities:** - libvirtd - /etc/libvirt/ - virsh - oVirt
Cloud Management Tools	**Weight:** 2 **Description:** Candidates should have basic feature knowledge of commonly available cloud management tools. **Key Knowledge Areas:** - Basic feature knowledge of OpenStack and CloudStack - Awareness of Eucalyptus and OpenNebula **Terms and Utilities:** - OpenStack - CloudStack - Eucalyptus - OpenNebula
	High Availability Cluster Management
High Availability Concepts and Theory	**Weight:** 5 **Description:** Candidates should understand the properties and design approaches of high availability clusters. **Key Knowledge Areas:** - Understand the most important cluster architectures - Understand recovery and cluster reorganization mechanisms - Design an appropriate cluster architecture for a given

Topic	Details
	purpose - Application aspects of high availability - Operational considerations of high availability **Terms and Utilities:** - Active/Passive Cluster, Active/Active Cluster - Failover Cluster, Load Balanced Cluster - Shared-Nothing Cluster, Shared-Disk Cluster - Cluster resources - Cluster services - Quorum - Fencing - Split brain - Redundancy - Mean Time Before Failure (MTBF) - Mean Time To Repair (MTTR) - Service Level Agreement (SLA) - Disaster Recovery - Replication - Session handling
Load Balanced Clusters	**Weight:** 6 **Description:** Candidates should know how to install, configure, maintain and troubleshoot LVS. This includes the configuration and use of keepalived and ldirectord. Candidates should further be able to install, configure, maintain and troubleshoot HAProxy. **Key Knowledge Areas:** - Understanding of LVS / IPVS - Basic knowledge of VRRP - Configuration of keepalived - Configuration of ldirectord - Backend server network configuration - Understanding of HAProxy - Configuration of HAProxy **Terms and Utilities:** - ipvsadm - syncd - LVS Forwarding (NAT, Direct Routing, Tunneling, Local Node) - connection scheduling algorithms - keepalived configuration file - ldirectord configuration file - genhash - HAProxy configuration file

Topic	Details
	- load balancing algorithms - ACLs
Failover Clusters	**Weight:** 6 **Description:** Candidates should have experience in the installation, configuration, maintenance and troubleshooting of a Pacemaker cluster. This includes the use of Corosync. The focus is on Pacemaker 1.1 for Corosync 2.x. **Key Knowledge Areas:** - Pacemaker architecture and components (CIB, CRMd, PEngine, LRMd, DC, STONITHd) - Pacemaker cluster configuration - Resource classes (OCF, LSB, Systemd, Upstart, Service, STONITH, Nagios) - Resource rules and constraints (location, order, colocation) - Advanced resource features (templates, groups, clone resources, multi-state resources) - Pacemaker management using pcs - Pacemaker management using crmsh - Configuration and Management of corosync in conjunction with Pacemaker - Awareness of other cluster engines (OpenAIS, Heartbeat, CMAN) **Terms and Utilities:** - pcs - crm - crm_mon - crm_verify - crm_simulate - crm_shadow - crm_resource - crm_attribute - crm_node - crm_standby - cibadmin - corosync.conf - authkey - corosync-cfgtool - corosync-cmapctl - corosync-quorumtool - stonith_admin

Topic	Details
High Availability in Enterprise Linux Distributions	**Weight:** 1 **Description:** Candidates should be aware of how enterprise Linux distributions integrate High Availability technologies. **Key Knowledge Areas:** - Basic knowledge of Red Hat Enterprise Linux High Availability Add-On - Basic knowledge of SUSE Linux Enterprise High Availability Extension **Terms and Utilities:** - Distribution specific configuration tools - Integration of cluster engines, load balancers, storage technology, cluster filesystems, etc.

<h2 style="text-align:center">High Availability Cluster Storage</h2>

DRBD / cLVM	**Weight:** 3 **Description:** Candidates are expected to have the experience and knowledge to install, configure, maintain and troubleshoot DRBD devices. This includes integration with Pacemaker. DRBD configuration of version 8.4.x is covered. Candidates are further expected to be able to manage LVM configuration within a shared storage cluster. **Key Knowledge Areas:** - Understanding of DRBD resources, states and replication modes - Configuration of DRBD resources, networking, disks and devices - Configuration of DRBD automatic recovery and error handling - Management of DRBD using drbdadm - Basic knowledge of drbdsetup and drbdmeta - Integration of DRBD with Pacemaker - cLVM - Integration of cLVM with Pacemaker **Terms and Utilities:** - Protocol A, B and C - Primary, Secondary - Three-way replication - drbd kernel module - drbdadm - drbdsetup

Topic	Details
	- drbdmeta - /etc/drbd.conf - /proc/drbd - LVM2 - clvmd - vgchange, vgs
Clustered File Systems	**Weight:** 3 **Description:** Candidates should know how to install, maintain and troubleshoot installations using GFS2 and OCFS2. This includes integration with Pacemaker as well as awareness of other clustered filesystems available in a Linux environment. **Key Knowledge Areas:** - Understand the principles of cluster file systems - Create, maintain and troubleshoot GFS2 file systems in a cluster - Create, maintain and troubleshoot OCFS2 file systems in a cluster - Integration of GFS2 and OCFS2 with Pacemaker - Awareness of the O2CB cluster stack - Awareness of other commonly used clustered file systems **Terms and Utilities:** - Distributed Lock Manager (DLM) - mkfs.gfs2 - mount.gfs2 - fsck.gfs2 - gfs2_grow - gfs2_edit - gfs2_jadd - mkfs.ocfs2 - mount.ocfs2 - fsck.ocfs2 - tunefs.ocfs2 - mounted.ocfs2 - o2info - o2image - CephFS - GlusterFS - AFS

LPI 304-200 Sample Questions:

Question: 1

How can data be shared between several virtual machines running on the same Linux-based host system?

a) By mounting other VM's file systems from /dev/virt-disks/remote/.
b) By using a network file system or file transfer protocol.
c) By default, Linux-based virtualization products provide full access to the host system to all virtual machines.
d) By setting up a ramdisk in one virtual machine and mounting it using its UUID in the other VMs.
e) By attaching the same virtual hard disk to all virtual machines and activating EXT4 sharing extensions on it.

Answer: b

Question: 2

Using Linux Virtual Server (LVS) without any additional tools provides which of the following features?

a) Balancing network connections across several backend servers.
b) Automatically taking over the services of failed nodes.
c) Restarting failed services on the backend servers.
d) Checking the integrity of services on backend servers.
e) Starting and stopping backend servers as needed.

Answer: a

Question: 3

Within the graphical output of a KVM virtual machine, which key sequence switches to the KVM monitor of the VM?

a) Ctrl-Alt-1
b) Ctrl-Alt-0
c) Ctrl-Alt-4
d) Ctrl-Alt-2
e) Ctrl-Alt-3

Answer: d

Question: 4

Which of the following statements are true regarding IaaS computing instances?

a) Creation of new instances can be automated by using scripts or APIs and service interfaces.
b) The root file system of a computing instance is always persistent and can be accessed after the instance is destroyed.
c) Each and every user of an IaaS cloud has exactly one computing instance.
d) Once created, computing instances are seldom deleted in order to ensure the accessibility of the instance's data.
e) Instances may be created when needed and destroyed when they become obsolete.

Answer: a, e

Question: 5

In case one service in a Pacemaker cluster depends on another service running on the same node, which score should be assigned to the constraint describing that dependency?

a) -1
b) 0
c) 1
d) FORCE
e) INFINITY

Answer: e

Question: 6

What is the usual way to gain command line access to computing instances in an IaaS cloud?

a) By providing a public SSH key to the cloud management system and using the matching private SSH key to log into the instances.
b) Usually computing instances are accessed through a web frontend and do not allow command line access.
c) By either telnet or SSH using the credentials of the cloud management system account with administrative privileges.
d) By using a telnet session with the credentials set and publicized by the creator of the computing instance's system image.
e) By using a VNC console which does not require authentication when it is invoked via the cloud management system.

Answer: a

Question: 7

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: 8

When used with KVM, which of the following block device image formats support snapshots?

- a) qcow
- b) dmg
- c) qcow2
- d) qed
- e) raw

Answer: c

Question: 9

Which options to the xl command will deactivate a running Xen virtual machine?

(Choose TWO correct answers.)

- a) destroy
- b) remove
- c) shutdown
- d) stop
- e) halt

Answer: a, c

Question: 10

How does the command to add a new resource to a Pacemaker cluster using crm begin?

a) crm manage cluster
b) crm configure resource
c) crm service add
d) crm configure primitive
e) crm resource new

Answer: d

Study Guide to Crack LPI LPIC-3 304-200 Exam:

- Getting details of the 304-200 syllabus, is the first step of a study plan. This pdf is going to be of ultimate help. Completion of the syllabus is must to pass the 304-200 exam.
- Making a schedule is vital. A structured method of preparation leads to success. A candidate must plan his schedule and follow it rigorously to attain success.
- Joining the LPI provided training for 304-200 exam could be of much help. If there is specific training for the exam, you can discover it from the link above.
- Read from the 304-200 sample questions to gain your idea about the actual exam questions. In this PDF useful sample questions are provided to make your exam preparation easy.
- Practicing on 304-200 practice tests is must. Continuous practice will make you an expert in all syllabus areas.

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