EDUSUM

#1 Online Certification Guide

LPI 101-500

LPI LPIC-1 Certification Questions & Answers

Exam Summary – Syllabus –Questions

101-500

LPIC-1 Linux Administrator

60 Questions Exam – 500/800 Cut Score – Duration of 90 minutes

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Know Your 101-500 Certification Well:

The 101-500 is best suitable for candidates who want to gain knowledge in the LPI Linux System Administration. Before you start your 101-500 preparation you may struggle to get all the crucial LPIC-1 materials like 101-500 syllabus, sample questions, study guide.

But don't worry the 101-500 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 101-500 syllabus?
- How many questions are there in the 101-500 exam?
- Which Practice test would help me to pass the 101-500 exam at the first attempt?

Passing the 101-500 exam makes you LPIC-1 Linux Administrator. Having the LPIC-1 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 101-500 LPIC-1 Certification Details:

Exam Name	LPIC-1 Linux Administrator
Exam Code	101-500
Exam Price	$200 (USD)
Duration	90 mins
Number of Questions	60
Passing Score	500 / 800
Schedule Exam	LPI Marketplace
Sample Questions	LPI LPIC-1 Sample Questions
Practice Exam	**LPI 101-500 Certification Practice Exam**

101-500 Syllabus:

Topic	Details
Topic 101: System Architecture	
101.1 Determine and configure hardware settings	**Weight:** 2 **Description:** Candidates should be able to determine and configure fundamental system hardware **Key Knowledge Areas:** - Enable and disable integrated peripherals. - Differentiate between the various types of mass storage 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 and 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	**Weight:** 3 **Description:** Candidates should be able to guide the system through the booting process. **Key Knowledge Areas:** **-** Provide common commands to the boot loader and options to the kernel at boot time. - Demonstrate knowledge of the boot sequence from BIOS/UEFI to boot completion. - Understanding of SysVinit and systemd. - Awareness of Upstart. - Check boot events in the log files. **The following is a partial list of the used files,Terms and Utilities:** - dmesg - journalctl - BIOS

Topic	Details
	- UEFI - bootloader - kernel - initramfs - init - SysVinit - systemd
101.3 Change runlevels / boot targets and shutdown or reboot system	**Weight:** 3 **Description:** Candidates should be able to manage the SysVinit runlevel or systemd boot target of the system. This objective includes changing to single user mode, shutdown or rebooting the system. Candidates should be able to alert users before switching runlevels / boot targets and properly terminate processes. This objective also includes setting the default SysVinit runlevel or systemd boot target. It also includes awareness of Upstart as an alternative to SysVinit or systemd. **Key Knowledge Areas:** - 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. - Awareness of acpid. **The following is a partial list of the used files, Terms and Utilities:** - /etc/inittab - shutdown - init - /etc/init.d/ - telinit - systemd - systemctl - /etc/systemd/ - /usr/lib/systemd/ - wall
Topic 102: Linux Installation and Package Management	
102.1 Design hard disk layout	**Weight:** 2 **Description:** Candidates should be able to design a disk partitioning scheme for a Linux system.

Topic	Details
	Key Knowledge Areas: - Allocate filesystems and swap space to separate partitions or disks. - Tailor the design to the intended use of the system. - Ensure the /boot partition conforms to the hardware architecture requirements for booting. - Knowledge of basic features of LVM. **The following is a partial list of the used files,Terms and Utilities:** **-** / (root) filesystem - /var filesystem - /home filesystem - /boot filesystem - EFI System Partition (ESP) - swap space - mount points - partitions
102.2 Install a boot manager	**Weight:** 2 **Description:** Candidates should be able to select, install and configure a boot manager. **Key Knowledge Areas:** **-** Providing alternative boot locations and backup boot options. - Install and configure a boot loader such as GRUB Legacy. - Perform basic configuration changes for GRUB 2. - Interact with the boot loader. **The following is a partial list of the used files, terms and utilities:** **-** menu.lst, grub.cfg and grub.conf - grub-install - grub-mkconfig - MBR
102.3 Manage shared libraries	**Weight:** 1 **Description:** Candidates should be able to determine the shared libraries that executable programs depend on and install them when necessary. **Key Knowledge Areas:** **-** Identify shared libraries. - Identify the typical locations of system libraries. - Load shared libraries. **The following is a partial list of the used files,Terms and Utilities:-**

Topic	Details
	- ldd - ldconfig - /etc/ld.so.conf - LD_LIBRARY_PATH
102.4 Use Debian package management	**Weight:** 3 **Description:** Candidates should be able to perform package management using the Debian package tools. **Key Knowledge Areas:** - Install, upgrade and uninstall Debian binary packages. - Find packages containing specific files or libraries which may or may not be installed. - Obtain package information like version, content, dependencies, package integrity and installation status (whether or not the package is installed). - Awareness of apt. **The following is a partial list of the used files,Terms and Utilities:** - /etc/apt/sources.list - dpkg - dpkg-reconfigure - apt-get - apt-cache
102.5 Use RPM and YUM package management	**Weight:** 3 **Description:** Candidates should be able to perform package management using RPM, YUM and Zypper. **Key Knowledge Areas:** - Install, re-install, upgrade and remove packages using RPM, YUM and Zypper. - Obtain information on RPM packages such as version, status, dependencies, integrity and signatures. - Determine what files a package provides, as well as find which package a specific file comes from. - Awareness of dnf. **The following is a partial list of the used files,Terms and Utilities:** - rpm - rpm2cpio - /etc/yum.conf - /etc/yum.repos.d/

Topic	Details
	- yum - zypper
102.6 Linux as a virtualization guest	**Weight: 1** **Description:** Candidates should understand the implications of virtualization and cloud computing on a Linux guest system. **Key Knowledge Areas:** - Understand the general concept of virtual machines and containers. - Understand common elements virtual machines in an IaaS cloud, such as computing instances, block storage and networking. - Understand unique properties of a Linux system which have to changed when a system is cloned or used as a template. - Understand how system images are used to deploy virtual machines, cloud instances and containers. - Understand Linux extensions which integrate Linux with a virtualization product. - Awareness of cloud-init. **The following is a partial list of the used files, terms and utilities:** - Virtual machine - Linux container - Application container - Guest drivers - SSH host keys - D-Bus machine id
Topic 103: GNU and Unix Commands	
103.1 Work on the command line	**Weight:** 4 **Description:** Candidates should be able to interact with shells and commands using the command line. The objective assumes the Bash shell. **Key Knowledge Areas:** **-** Use single shell commands and one line command sequences to perform basic tasks on the command line. - Use and modify the shell environment including defining, referencing and exporting environment variables. - Use and edit command history. - Invoke commands inside and outside the defined path.

Topic	Details
	The following is a partial list of the used files, Terms and Utilities: **-** bash - echo - env - export - pwd - set - unset - type - which - man - uname - history - .bash_history - Quoting
103.2 Process text streams using filters	**Weight:** 2 **Description:** Candidates should be able to apply filters to text streams. **Key Knowledge Areas:** **-** Send text files and output streams through text utility filters to modify the output using standard UNIX commands found in the GNU textutils package. **Terms and Utilities:** **-** bzcat **-** cat - cut - head - less - md5sum - nl - od - paste - sed - sha256sum - sha512sum - sort - split - tail - tr - uniq - wc - xzcat - zcat

Topic	Details
103.3 Perform basic file management	**Weight:** 4 **Description:** Candidates should be able to use the basic Linux commands to manage files and directories. **Key Knowledge Areas:** **-** Copy, move and remove files and directories individually. - Copy multiple files and directories recursively. - Remove files and directories recursively. - Use simple and advanced wildcard specifications in commands. - Using find to locate and act on files based on type, size, or time. - Usage of tar, cpio and dd. **Terms and Utilities:** **-** cp - find - mkdir - mv - ls - rm - rmdir - touch - tar - cpio - dd - file - gzip - gunzip - bzip2 - bunzip2 - xz - unxz - file globbing
103.4 Use streams, pipes and redirects	**Weight:** 4 **Description:** Candidates should be able to redirect streams and connect them in order to efficiently process textual data. Tasks include redirecting standard input, standard output and standard error, piping the output of one command to the input of another command, using the output of one command as arguments to another command and sending output to both stdout and a file. **Key Knowledge Areas:** **-** Redirecting standard input, standard output and standard error. - Pipe the output of one command to the input of another command.

Topic	Details
	- Use the output of one command as arguments to another command. - Send output to both stdout and a file. **Terms and Utilities:** - tee - xargs
103.5 Create, monitor and kill processes	**Weight:** 4 **Description:** Candidates should be able to perform basic process management. **Key Knowledge Areas:** - Run jobs in the foreground and background. - Signal a program to continue running after logout. - Monitor active processes. - Select and sort processes for display. - Send signals to processes. **Terms and Utilities:** - & - bg - fg - jobs - kill - nohup - ps - top - free - uptime - pgrep - pkill - killall - watch - screen - tmux
103.6 Modify process execution priorities	**Weight:** 2 **Description:** Candidates should should be able to manage process execution priorities. **Key Knowledge Areas:** - Know the default priority of a job that is created. - Run a program with higher or lower priority than the default. - Change the priority of a running process. **Terms and Utilities:** - nice

Topic	Details
	- ps - renice - top
103.7 Search text files using regular expressions	**Weight:** 2 **Description:** Candidates should be able to manipulate files and text data using regular expressions. This objective includes creating simple regular expressions containing several notational elements as well as understanding the differences between basic and extended regular expressions. It also includes using regular expression tools to perform searches through a filesystem or file content. **Key Knowledge Areas:** **-** Create simple regular expressions containing several notational elements. - Understand the differences between basic and extended regular expressions. - Understand the concepts of special characters, character classes, quantifiers and anchors. - Use regular expression tools to perform searches through a filesystem or file content. - Use regular expressions to delete, change and substitute text. **The following is a partial list of the used files,Terms and Utilities:** **-** grep - egrep - fgrep - sed - regex(7)
103.8 Basic file editing	**Weight:** 3 **Description:**Candidates should be able to edit text files using vi. This objective includes vi navigation, vi modes, inserting, editing, deleting, copying and finding text. It also includes awareness of other common editors and setting the default editor. **Key Knowledge Areas:** **-** Navigate a document using vi. - Understand and use vi modes. - Insert, edit, delete, copy and find text in vi. - Awareness of Emacs, nano and vim. - Configure the standard editor. **Terms and Utilities:** **-** vi

Topic	Details
	- /, ? - h,j,k,l - i, o, a - d, p, y, dd, yy - ZZ, :w!, :q! - EDITOR
Topic 104: Devices, Linux Filesystems, Filesystem Hierarchy Standard	
104.1 Create partitions and filesystems	**Weight:** 2 **Description:** Candidates should be able to configure disk partitions and then create filesystems on media such as hard disks. This includes the handling of swap partitions. **Key Knowledge Areas:** **-** Manage MBR and GPT partition tables - Use various mkfs commands to create various filesystems such as: - ext2/ext3/ext4 - XFS - VFAT - exFAT - Basic feature knowledge of Btrfs, including multi-device filesystems, compression and subvolumes. **The following is a partial list of the used files, Terms and Utilities:** **-** fdisk - gdisk - parted - mkfs - mkswap
104.2 Maintain the integrity of filesystems	**Weight:** 2 **Description:** Candidates should be able to maintain a standard filesystem, as well as the extra data associated with a journaling filesystem. **Key Knowledge Areas:** **-** Verify the integrity of filesystems. - Monitor free space and inodes. - Repair simple filesystem problems. **The following is a partial list of the used files,Terms and Utilities:** **-** du - df

Topic	Details
	- fsck - e2fsck - mke2fs - tune2fs - xfs_repair - xfs_fsr - xfs_db
104.3 Control mounting and unmounting of filesystems	**Weight:** 3 **Description:** Candidates should be able to configure the mounting of a filesystem. **Key Knowledge Areas:** **-** Manually mount and unmount filesystems. - Configure filesystem mounting on bootup. - Configure user mountable removable filesystems. - Use of labels and UUIDs for identifying and mounting file systems. - Awareness of systemd mount units. **The following is a partial list of the used files,Terms and Utilities:** **-** /etc/fstab - /media/ - mount - umount - blkid - lsblk
104.5 Manage file permissions and ownership	**Weight:** 3 **Description:** Candidates should be able to control file access through the proper use of permissions and ownerships. **Key Knowledge Areas:** **-** Manage access permissions on regular and special files as well as directories. - Use access modes such as suid, sgid and the sticky bit to maintain security. - Know how to change the file creation mask. - Use the group field to grant file access to group members. **Terms and Utilities:** **-** chmod - umask

Topic	Details
	- chown - chgrp
104.6 Create and change hard and symbolic links	**Weight:** 2 **Description:** Candidates should be able to create and manage hard and symbolic links to a file. **Key Knowledge Areas:** **-** Create links. - Identify hard and/or soft links. - Copying versus linking files. - Use links to support system administration tasks. **The following is a partial list of the used files,Terms and Utilities:** **-** ln - ls
104.7 Find system files and place files in the correct location	**Weight:** 2 **Description:** Candidates should be thoroughly familiar with the Filesystem Hierarchy Standard (FHS), including typical file locations and directory classifications. **Key Knowledge Areas:** **-** Understand the correct locations of files under the FHS. - Find files and commands on a Linux system. - Know the location and purpose of important file and directories as defined in the FHS. **The following is a partial list of the used files,Terms and Utilities:** **-** find - locate - updatedb - whereis - which - type - /etc/updatedb.conf

LPI 101-500 Sample Questions:

Question: 1

You want to create a link from your home directory on your hard disk to a directory on a DVD drive. Which of the following link types might you use?

a) Only a hard link
b) Only a symbolic link
c) Either a symbolic or a hard link
d) Only a hard link, and then only if both directories use the same low-level filesystem
e) None of the above; such links aren't possible under Linux

Answer: b

Question: 2

What is the effect of the following command?

$ pr report.txt | lpr

a) Tabs are converted to spaces in report.txt, and the result is saved in lpr.
b) The files report.txt and lpr are combined together into one file and sent to standard output.
c) The file report.txt is formatted for printing and sent to the lpr program.
d) The file report.txt is printed, and any error messages are stored in the file lpr.
e) None of the above.

Answer: c

Question: 3

Which of the following pieces of information can df not report?

a) How long the filesystem has been mounted
b) The number of inodes used on an ext3fs partition
c) The filesystem type of a partition
d) The percentage of available disk space used on a partition
e) The mount point associated with a filesystem

Answer: a

Question: 4

How would you remove two lines of text from a file using vi?

a) In command mode, position the cursor on the first line and type 2dd.
b) In command mode, position the cursor on the last line and type 2yy.
c) In insert mode, position the cursor at the start of the first line, hold down the Shift key while pressing the Down arrow key twice, and press the Delete key on the keyboard.
d) In insert mode, position the cursor at the start of the first line, and press Ctrl+K twice.
e) Using your mouse, select both lines and then press the Delete or Backspace key.

Answer: a

Question: 5

Which of the following commands creates a display of processes, showing the parent-child relationships through links between their names?

a) ps --forest
b) ps aux
c) ps -e
d) ps --tree
e) All of the above

Answer: a

Question: 6

What parameter can you pass to ln to create a soft link?

(Select two.)

a) -s
b) --soft
c) --slink
d) --symbolic
e) --sl

Answer: a, d

Question: 7

How should you configure a system that uses Yum to access an additional Yum software repository?

a) Edit the /etc/apt/sources.list file to include the repository site's URL, as detailed on the repository's website.
b) Download a package from the repository site, and install it with RPM, or place a configuration file from the repository site in the /etc/yum.repos.d directory.
c) Use the add-repository subcommand to yum or the Add Repository option in the File menu in yumex, passing it the URL of the repository.
d) Edit the /etc/yum.conf file, locate the [repos] section, and add the URL to the repository after the existing repository URLs.
e) Edit the /etc/yum.conf file, locate the REPOSITORIES= line, and add the new repository to the colon-delimited list on that line.

Answer: b

Question: 8

Which of the following directories is most likely to be placed on its own hard disk partition?

a) /bin
b) /sbin
c) /mnt
d) /home
e) /dev

Answer: d

Question: 9

Where might the BIOS find a boot loader?

a) RAM
b) /dev/boot
c) MBR
d) /dev/kmem
e) The swap partition

Answer: c

Question: 10

Which of the following commands is implemented as an internal command in bash?

a) cat
b) less
c) tee
d) sed
e) echo

Answer: e

Study Guide to Crack LPI LPIC-1 101-500 Exam:

- Getting details of the 101-500 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 101-500 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 101-500 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 101-500 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 101-500 practice tests is must. Continuous practice will make you an expert in all syllabus areas.