Hewlett Packard Enterprise

LPI201—LPIC-2 Exam Prep (Course 1) (LPI201) HL965S

This course prepares students to take the LPI 201 exam of the LPIC-2 certification. The Linux® Professional Institute (LPI) is the go-to certification body for vendor independent Linux certifications. This course covers more advanced Linux skills such as system management and networking. Students will feel confident taking the LPI LPIC-2 201 exam with in classroom assessments and practice exams.

HPE course number	HL965S
Course length	4 days
Delivery mode	ILT,VILT
View schedule, local pricing, and register	**View now**
View related courses	**View now**

Why HPE Education Services?

- IDC MarketScape leader 5 years running for IT education and training*
- Recognized by IDC for leading with global coverage, unmatched technical expertise, and targeted education consulting services*
- Key partnerships with industry leaders OpenStack®, VMware®, Linux, Microsoft®, ITIL, PMI, CSA, and SUSE
- Complete continuum of training delivery options—self-paced eLearning, custom education consulting, traditional classroom, video on-demand instruction, live virtual instructor-led with hands-on lab, dedicated onsite training
- Simplified purchase option with HPE Training Credits

Supported distributions

Red Hat® Enterprise Linux 7

SUSE Linux Enterprise 12

Prerequisites

LPIC-1 certification or HL963S "LPIC-1 Exam Prep (Course 1)" and HL964S "LPIC-1 Exam Prep (Course 2)"..

*Realize Technology Value with Training, IDC Infographic 2037, Sponsored by HPE, October 2017

Detailed course outline

Module 1: Capacity planning

- LPI objectives covered
- Troubleshooting resource usage
- Gathering system info
- Viewing processes
- Process management tools
- Troubleshooting processes: Top
- Network I/O: iptraf-ng
- uptime & w
- lsof and fuser
- System status – memory
- System status – I/O
- System status – CPU
- Performance trending with sar
- Network monitoring solutions
- Graphing SNMP data with MRTG
- Nagios overview
- Nagios configuration

Lab tasks

- Process management basics
- Nagios (Web interface)

Module 2: Boot process and SysV Init

- LPI objectives covered
- Booting Linux on PCs
- GRUB 2 configuration
- Boot parameters
- init
- Linux runlevels aliases
- /etc/inittab (Legacy)
- Systemd local-fs.target and sysinit.target
- Typical SysV Init script (legacy)
- Legacy local bootup script support
- Managing SysV Init daemons (legacy)
- Controlling SysV Init service startup (legacy)
- systemd system and service manager
- Modifying systemd services
- Using systemd
- Systemd local-fs.target and sysinit.target
- Systemd basic.target and multi-user.target
- Shutdown and reboot

Lab tasks

- Boot process
- GRUB command line
- Basic GRUB security
- Managing services with Systemd's systemctl
- Creating a systemd unit file
- Introduction to troubleshooting labs
- Troubleshooting practice: Boot process

Module 3: System recovery and bootloaders

- LPI objectives covered
- Diagnostic/recovery
- Rescue procedures
- Recovery: Mount & chroot
- Recovery examples
- Recovery: Network utilities
- GRUB 2
- systemd-boot & U-Boot
- SYSLINUX
- Network booting with PXE

Lab tasks

- Recovery runlevels
- Recovering damaged MBR
- Recover from deleted critical files
- Using SUSE auto repair mode

Module 4: Linux Kernel: Components and compile

- LPI objectives covered
- Why compile?
- Getting kernel source
- Preparing to compile
- Configuring kernel compilation options
- Available kernel compile options
- Compiling the kernel
- Install compiled kernel modules
- Initial RAM filesystem
- Tips and tricks
- Installing the kernel
- Troubleshooting with GRUB 2
- Boot process troubleshooting
- Troubleshooting: Linux and Init
- Hardware discovery tools
- Configuring new hardware with hwinfo
- Configuring kernel components and modules
- Kernel modules
- Handling module dependencies
- Dynamic Kernel Module System (DKMS)
- Kernel modules troubleshooting
- Configuring the kernel via /proc/
- udev

Lab tasks

- Adjusting kernel options
- Linux kernel driver compilation
- Linux kernel compilation

Module 5: Filesystem administration

- LPI objectives covered
- Filesystem support
- Mounting filesystems
- Filesystem table (/etc/fstab)
- AutoFS
- AutoFS configuration
- Managing optical media
- Partitioning disks with fdisk & gdisk
- Resizing a GPT partition with gdisk
- Partitioning disks with parted
- Non-interactive disk partitioning with sfdisk
- Btrfs introduction
- Filesystem creation
- Filesystem maintenance
- smartmontools
- Resizing filesystems
- Managing an XFS filesystem
- Swap
- File encryption with encfs
- Linux Unified Key Setup (LUKS)
- Persistent block devices
- List block devices

Lab tasks

- Accessing NFS shares
- On-demand filesystem mounting with AutoFS
- Hot adding Swap
- Creating ISO images for backups
- smartd and smartctl
- LUKS-on-disk format encrypted filesystem

Module 6: LVM & RAID

- LPI objectives covered
- Logical Volume Management
- Implementing LVM
- Creating logical volumes
- Activating LVM VGs
- Exporting and importing a VG
- Examining LVM components
- Changing LVM components
- Advanced LVM overview
- Advanced LVM: Components & object tags
- Advanced LVM: Automated storage tiering
- Advanced LVM: Thin provisioning
- Advanced LVM: Striping & mirroring
- Advanced LVM: RAID volumes
- SLES graphical disk tool
- RAID concepts
- Array creation with mdadm
- Software RAID monitoring
- Software RAID control and display
- Lab tasks
- Creating and managing a RAID-5 array
- Creating and managing LVM volumes

Module 7: Adjusting storage device access and iSCSI	• LPI objectives covered • Tuning with hdparm • SCSI devices • SSD and NVMe storage • Remote storage overview • Remote filesystem protocols • Remote block device protocols • iSCSI architecture	• Open-iSCSI initiator implementation • iSCSI initiator discovery • iSCSI initiator node administration • Mounting iSCSI targets at boot • iSCSI multipathing considerations Lab tasks • iSCSI initiator configuration
Module 8: Client networking	• LPI objectives covered • Linux network interfaces • Ethernet hardware tools • Network configuration with ip command • Configuring routing tables • IP to MAC address mapping with ARP • Network configuration with ip command • Starting and stopping interfaces • IPv6 • Linux wireless extensions and tools • Wireless tools discovery • NetworkManager SUSE YaST network configuration tool • Network diagnostics	• Information from ss and netstat • Discovering reachable services • nmap • Netcat • tcpdump and wireshark • Networking troubleshooting • Networking troubleshooting Lab tasks • Basic client networking • Wireless fundamentals • NMAP
Module 9: System maintenance	• LPI objectives covered • System messaging commands • Controlling system messaging • Archives with tar • Controlling login sessions • The gzip compression utility • The bzip2 compression utility • The XZ compression utility • Comparing file changes • Compiling/installing from source	• Tape libraries • Backup software • Backup examples Lab tasks • Command line messaging • Messaging with talkd • Archiving and compression • Using tar for backups • Using cpio for backups • Using rsync and ssh for backups

Learn more at
hpe.com/ww/learnlinux

Follow us:

c04586409, December 2017, HL965S E.01