



ULX-103: Linux Administration Part 1

Course Details

Course Code: UXL-103

Duration: 3 days

Notes:

- This course syllabus should be used to determine whether the course is appropriate for the students, based on their current skills and technical training needs.
- Course content, prices, and availability are subject to change without notice.
- Terms and Conditions apply

Elements of this syllabus are subject to change.

About this course

This three-day course provides the opportunity to install the Linux operating system on both Sparc and PC systems, and to learn the skills necessary to successfully configure non-network system services, and to manage the system on a day-to-day basis. It will cover the installation of the Redhat Linux distribution and allow the attendee to assess the content and extent of Linux's administration capabilities. Notes on other versions of Linux such as SuSE are also included in some areas. Network Administration issues are covered on the Linux System Administration (Part 2) course.

Course Objective

To be able to build the Linux Redhat system on both SPARC and Intel platforms, and successfully carry out day-to-day administration duties such as User management, File System maintenance, backups, adding disks, etc.

Academy IT Pty Ltd

Harmer House
Level 2, 5 Leigh Street
ADELAIDE 5000

Email: sales@academyit.com.au

Web: www.academyit.com.au

Phone: 08 7324 9800

Brian: 0400 112 083

LINUX background and sourcing

Where do I obtain Linux? What are the supported platforms and hardware? How about support services? What are the commercial license terms and conditions? (i.e. GNU Public License)

Installing LINUX

Installing LINUX on a PC using the RedHat/CentOS ES distribution. Overview of installation process. Information required before installing. Installation options, including disk partitioning and software packages. PC installation of linux from CD/DCD and the network. Boot configuration and booting post-build. Overview of Automated building. Keeping your LINUX system up to date. Where to obtain support and Linux resources. Accessing Linux documentation on-line and from other sources. Post install configuration including the Redhat Package Manager, yum, and vendor-specific updates etc.

Start-up and Shutdown

Switch on. Boot process and problems. The grub boot loader. Installing grub from scratch. Using boot loaders to boot multiple operating systems, including Windows. Accessing the root file system from grub. Creating a bootable Grub CD image. Configuring single user boot facilities. kernel load. Loadable kernel modules; adding modules; examining modules. The Init process, /etc/inittab and the rc scripts. Run states. Understanding and changing run states. Using chkconfig. Adding your own services to the boot process. Halting the system.

Adding and Maintaining Users

Concepts. Ownership of files, directories, and processes. Classes of user. Adding a user. Password control. Real and effective id. Using Graphical tools for user management. Configuring the Windows environment. Choosing and setting the display manager. Configuring graphics hardware characteristics.

File System Maintenance and Security

Utilities for file system management. (du, df, find) Timing commands with crontab. Protection mechanisms, including access modes, s and t bits, umask, chown and chmod. Access Control Lists with setfacl and getfacl. File system structure and slicing. The mount commands. Adding swap space. Making room on the file system. File

system security. System Logging management. SELinux Overview.

Linux Groups

Overview. The group file. Group identification of files and directories. Creating group entries and using groups in a practical way. User Private Groups in RedHat. Group-related commands.

Back-Up and Restore Utilities

Overview. Preparation. Tape types and capacities. Taking a full back up with the dump command. The tar, cpio and mt utilities. Taking full and partial backups. Verifying Backups. Restoring files and directories. Full system recovery. Booting into system recovery mode using removable media.

Adding a Printer

Overview. Connection methods. Printer types. The Linux spooling mechanisms available (CUPS, etc). Software modifications. Spooling system commands. Administrator control commands. Networking a printer and sharing printers.

Adding a Disk

Physical connection. Partitioning with fdisk. Creating different types of filesystem with mkfs. Mounting and updating /etc/fstab.

Linux RAID and LVM

What is available in the Linux kernel? Using fdisk to change partitions types to RAID. Creating RAID devices such as linear, stripes, mirrors and RAID 5. The Logical Volume facility. Creating a Volume Group. Renaming and removing Volume Groups. Logical Volumes creation. Extending Logical Volumes. Reducing Logical Volumes. Removing Logical Volumes. Striped Logical Volumes. Mirror Logical Volumes. Extend Mirror Volumes. Snapshot Volumes. Troubleshooting Operations.. system-config-lvm GUI