

**Course Length:** 4 days

**Course Description:** Intended for students already comfortable with working in the Unix environment, this in-depth course helps students acquire the variety of skills needed to set up and maintain Unix computers. The class concentrates on the popular Red Hat distribution of the Linux operating system, and covers subjects ranging from initial installation of Linux to day-to-day administrative tasks such as management of user accounts and disk space, and even imparting the trouble-shooting skills future system administrators will need to cope with unexpected behavior.

**Prerequisites:** Individuals wishing to take this class should already have a solid grounding in UNIX concepts. Fundamentals such as an understanding of the Linux filesystem, process management, and the ability to manipulate and edit files is considered a must and will not be covered in class. An understanding of network concepts, and the TCP/IP protocol suite is helpful.

**Distributions:** This courses is currently supported on the latest releases of Red Hat Enterprise Linux.

#### **DAY 1**

- Linux workstation installation
- Linux server installation
- Post-install system configuration
- Scripting installation of custom setups using kickstart
- Linux boot process
- SysV init concepts and configuration
- Managing startup of system daemons
- Controlling startup of services in xinetd / inetd
- Creation, modification, and deletion of users and groups
- Password aging under Linux

#### **DAY 2**

- The Linux login process and login authentication
- Regulating access to the root account via su and sudo
- Creation, modification, and deletion of partitions and filesystems
- Configuring NFS clients
- Client DS configuration - NIS, LDAP
- Management of RAID and LVM devices under Linux
- Using ACLs
- Disk space regulation using quotas
- Backing up and restoring Linux filesystems
- Scheduling jobs using cron, anacron, and at
- Management of processes running on the system
- Usage of process accounting and implementation of process limits
- Configuration and analysis of system logs
- System performance analysis

### **DAY 3**

- Configuring network interfaces
- Setup of DNS and DHCP clients
- Diagnosing network setup issues
- Configuration of X server
- Installation and maintenance of fonts
- Usage and configuration of XDMCP
- Implementations of X security
- Securing freshly installed Linux systems
- Keeping Linux systems up-to-date

### **DAY 4**

- Configuration of Linux firewalls
- Usage of TCP wrappers to secure Linux systems
- Configuration of optimized Linux kernels
- Compiling and installing custom Linux kernels
- Using third-party patches with Linux kernels
- Updating userland to support new kernels
- Concepts for troubleshooting Linux
- Analysis of system logs to identify problems
- Use of systems-level debugging aids in troubleshooting
- Usage of the Linux rescue environment