UNIX System Administration

Duration: 5 Days Course Code: USA

Overview:

This Unix System Administration training course is designed to give delegates practical experience in the administration of a SVR4 compatible Unix System. Practical work will concentrate on the basic SVR4 unix commands rather than vendor-specific administration menu driven or GUI tools.

Target Audience:

IT staff responsible for the maintenance and day-to-day running of a SVR4 compatible UNIX system. Typically, where several different versions of UNIX systems are supported and the delegate needs knowledge of administration procedures common to all that adhere to SVR4 standards.

Objectives:

- Adding, changing and deleting users and user groups
- Managing user passwords
- Configuring login files
- Running background tasks at regular intervals
- Creating file systems
- Mounting, monitoring and repairing file systems
- Managing file access
- Backing up and restoring files and directories using standard utilities
- Managing swap space
- Adding printers to the system
- Monitoring and controlling print jobs
- Starting and shutting down the system
- Customising start-up and shutdown procedures
- Monitoring system performance with the sar utility
- Configuring syslog to manage system event messages
- Carrying out various housekeeping procedures to manage disk space

Prerequisites:

- UI, UNIX Introduction
- SP,UNIX Shell Programming

Follow-on-Courses:

- UT, UNIX Advanced Shell Programming Tools
- OSP, Oracle SQL
- TN, TCP/IP Networking
- APH, Apache Web Server

Content:

Session 1: THE ADMINISTRATOR'S ROLE

- Role of a System Administrator
- Using the root login
- Using and tracking the use of su
- The sysadm menu system

Session 2: ACCOUNT MANAGEMENT

- Users, user groups and related system files
- Adding new users and user groups (useradd, groupadd)
- Changing and deleting users and user groups (usermod, userdel,
- groupmod, groupdel)
- Password and login control (passwd)
- User communication facilites (wall, /etc/motd)

Session 3: LOGIN FILES

- The Bourne and Korn shell environments
- Environment variables
- The system profile /etc/profile
- The user's .profile
- The Korn shell start up file .kshrc
- Korn shell options
- Listing environment variables and aliases
- Skeleton directories

Session 4: BACKGROUND JOBS

- Starting background Jobs (;)
- Using the nice command
- Using cron processes
- Creating crontab entries
- Using the crontab command
- The at command

Session 5: FILE SYSTEM ADMINISTRATION

- Physical disk organisation
- UNIX partition slices
- File system device names
- File system types
- File system structure
- File system creation (mkfs)
- Mounting and unmounting file systems (mount, umount)
- Checking and repairing file systems (fsck)
- Monitoring free space (df)

Session 6: FILE ACCESS

- File access criteria - users, groups and permissions
- Default permissions with umask
- Changing file attributes with chmod, chown and chgrp
- Testing permissions with su

Session 7: BACKUP AND RESTORE FACILITIES

- Using the cpio command
- Using the tar command
- Using the dd command
- Backup and restore services

Session 8: MANAGING SWAP SPACE

- Listing, configuring and disabling swap space (swap)

Session 9: TERMINALS AND PRINTERS

- Managing terminals
- Using the stty command
- Terminal model capabilities and commands (infocmp, tput)
- The LP print service
- LP print service files
- Printer configuration (lpadmin)
- Printer maintenance - managing printer status, job queues etc.
- (lphsut, lpsched, /etc/init.d/lp, accept, reject, enable, disable, lpmove, lpusers, lpstat, cancel)
- Printing from copies of files
- Stopping banner output

Session 10: SYSTEM STARTUP AND SHUTDOWN:

- The /etc/init procedure
- System run states
- The /etc/inittab file
- System startup procedures and processes
- System shutdown procedures and processes (init, shutdown)
- Recovery from boot failure

Session 11: BASIC NETWORKING

- Basic networking overview
- Network hardware
- Network software
- Network addressing - IPv4
- Network masks and subnets
- Routing
- Network commands (hostname, ifconfig, netstat, telnet, rlogin, ssh, ftp, sftp, rcp, scp, rsh, ping)
- Client-Server environment
- Servers
- Networking services overview NIS, NIS+, DNS, LDAP NFS, DHCP

Session 12: PERFORMANCE MANAGEMENT

- Performance management
- System performance tools
- System activity reporting using the sar

Session 13: KERNEL CONFIGURATION

- System configuration
- Configuration guidelines
- Reducing disk I/O
- Increasing user memory
- Improving CPU performance
- Special case tuning needs
- The configuration process (/etc/conf/cf.d, idtune, idbuild)

Session 14: SOFTWARE INSTALLATION

- Operating system installation
- Other software installation (pkginfo, pkgadd, pkgrm)

Session 15: SYSLOG

- Syslog configuration
- The /etc/syslog.conf configuration file
- Editing the syslog.conf file
- Logging telnet, ftp and other network daemons
- Testing syslog logging (logger)

Session 16: GENERAL HOUSEKEEPING

- Managing files and directories
- Checking file space used
- Freeing up disk space
- Saving disk space
- File system organisation
- Helpful hints

command
- General performance
- Specific areas of performance
- Excessive paging
- Disk I/O performance
- CPU performance
- Using the timex command

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

info@globalknowledge.co.uk

www.globalknowledge.co.uk

Global Knowledge, Mulberry Business Park, Fishponds Road, Wokingham Berkshire RG41 2GY UK