

SOLARIS SYSTEM ADMINISTRATION - PART I

COURSE SPECIFICATION

Introduction

This course will give delegates practical experience in the administration of a system that is using Solaris up to version 10. Reference will be made to the Solaris commands required to administer the system as well as using the GUI tools such as admintool and the Solaris Management console.

The delegates will practise:-

- Local System Administration with Solaris Management Console (SMC)
- Configuring the Openboot Firmware
- Startup and Shutdown Procedures
- Managing Services with the Service Management Facility (SMF)
- Installing the Solaris Operating system
- Software Package Administration
- Maintenance Of Patches
- Disk Management and Partitioning
- File System Management
- System Security and File Permissions
- User and Group Management
- Managing Login Files
- Backup And Recovery
- Managing the Print Environment
- Managing Processes

Who is the course for?

This course is aimed at IT staff responsible for performing essential system administration procedures in the Solaris operating environment.

Delegates should be familiar with using Unix shell commands and the vi editor. Knowledge of shell programming would be beneficial though not essential.

Course Objectives

Administering Solaris systems involves many standard tasks including; starting and shutting down a system, managing printers and performing regular backups. Delegates taking this course will gain the necessary knowledge and skills to perform these tasks.

COURSE CONTENTS

DAY 1

- Introduction** Administration and course materials
Course structure and agenda
Delegate and trainer introductions
- Session 1** **System Administration With SMC**
Overview of System Administration GUI Tools
Main Features and Usage
- Session 2** **Openboot**
Openboot interface
Openboot parameters
Device names and aliases
Openboot diagnostics
Boot Options
Exercise: Setting Openboot parameters and Boot options
- Session 3** **Startup and Shutdown Procedures**
Boot Phases
init
System run levels
inittab file
Run control scripts
Start and stop process for run level 2
Run control script summary
Adding a run control script
Disabling a run control script
System shutdown
The shutdown command
The init command
The halt/poweroff commands
The reboot command
The stop-a command
Exercise: Creating a run control script

Session 4 *Service Management Facility*

Basic Features
The SMF Environment
SMF and Booting
SMF Environmental Structures
Service States
Managing Services
Listing Services with svcs and inetadm
Managing the State of a Service with svcadm
Configuring a Service with svccfg
Managing the State of inetd Network Services with inetadm
Exercise: Listing and Managing the State of Services

DAY 2

Session 5 *Installing the Solaris Operating System*

Installation requirements
System configuration for servers and clients
Partitions and multiple disks
Software terminology
Packages, Clusters and Groups
Configuration cluster
Definition of Installation methods –
 Web Start, Interactive, Jumpstart, Flash & Live Upgrade
Interactive Installation process
Installation from CD/DVD
Exercise: Installing a Solaris System (possibly, optional at the end of the course)

Session 6 *Software Package Administration*

Package installation
Configuration clusters
Tools for managing software
Displaying current software package information
Checking the installation of a package
Adding software packages using a CDROM device
Installation of Answerbook documentation packages
Removing software packages
Package system logfile
Exercise: Removing, adding and listing a Package

Session 7 *Maintenance Of Patches*

Maintenance of patches and patch clusters
Verification of currently installed patches
Installing a patch on the system
Removing a patch from the system
Exercise: Installing and listing a Patch

Session 8

Disk Management

Displaying disk information

Partitions/Slices

Naming conventions

Physical device names

Instance name

Logical device names

Block and character devices

Reconfiguring disk devices

Partitioning the disk with the format command and

Solaris Management Console

Making a new partition

Exercise: Configuring and listing a disk slice

DAY 3

Session 9

File System Management

Disk based file systems

Main root sub-directories

Pseudo file systems

The swapfs file system

The fdfs file system

The cachefs file system

The tmpfs file system

The procfs file system

Components of a ufs file system

Boot block

Superblocks

Inodes

Data disk blocks

Ulimit parameter

File types

Symbolic and Hard links

Creating file systems

The newfs command

The mount command

The umount command

The vfstab file

The mnttab file

Filesystem checking

Determining if a file system needs checking

Running fsck manually

The lost+found directories

Automounting CD's and floppies (Volume Management)

Checking free disk space

The df command

The du command

Freeing disk space

Exercise: Mounting and unmounting a file system

Session 10 **System Security And File Permissions**

File access criteria
Users and groups
The id and groups command
File permissions
Default permissions
Changing file attributes, owner and group (chmod, chown, chgrp)
Other access considerations
Switching users – su command
Tracking the use of su
Switching groups
Determining who is logged into a system
Exercise: Viewing and setting file permissions

DAY 4

Session 11 **User Management**

User accounts
Files used in creating a user - the passwd, group and shadow files
Adding a user
Changing user details
Deleting a user
The userdel command
User group maintenance
Password administration
Password command
Local Login control
Remote Login control
Login logs
User communication
The wall command
The message of the day
Controlling the amount of disk space accessible to users using quotas
Exercise: Creating and listing users and groups
Setting up disk quotas

Session 12

Login Files

The Bourne and Korn shell environments

Environment variables

The System profile

The User's .profile

The Korn shell start up file

Korn shell options

Aliases

Listing environment variables and aliases

Aliases

Skeleton directories

Exercise: Modifying and testing the system and a user's profile

Session 13

Backup And Recovery

Backup overview

Backup policy

Backup and restore utilities overview

Tape device names

The mt utility – retension, rewind, space forward or backward and status

The ufsdump & ufsrestore utilities

ufs snapshots

Exercise: Backing up and restoring /export/home

DAY 5

Session 14

Managing The Print Environment

The print service

Print service files

Hardware setup – ethernet, parallel & serial

Printer configuration with Solaris Print Manager

Printer configuration with lpadmin

Line printer commands – lpshut, lpsched, accept, reject, enable, disable, lpmove lpusers, lpstat, lp, cancel

Printing from copies of files

Stopping banner output

Exercise: Configuring and managing printer queues

Session 15**Managing Processes**

Introduction to Process Management

The ps command

The prstat command

The process manager application

The kill command

Using the cron processes

Cron files

Creating crontab entries

Amending existing crontab files

Crontab command options

The at command

Exercise: Monitoring and managing processes

Setting up cron batch files

Conclusion

Course summary

Course assessment