

Solaris 8 System Administration 1

Detailed Course Outline

Introducing the Solaris 8 Operating Environment Administration

- Define the roles of a Solaris Operating Environment system administrator
- Define common system administration terms

Adding Users

- Create and manage user accounts on the local system using the admintool utility
- Describe the format of the files /etc/passwd and /etc/shadow for securing login access
- Describe the format of the /etc/group file for maintaining shared and restricted access to files and directories
- Add, modify, and delete user accounts on the local system with the commands useradd, usermod, and userdel
- Add, modify, and delete group accounts for the local system with the commands groupadd, groupmod, and groupdel
- Define the two different types of shell initialization files
- Describe the shell startup activities during login for the three main Solaris Operating Environment shells
- List the shell initialization files used to set up a user's work environment at login
- Describe the purpose of the /etc/skel directory
- Modify the initialization files to customize a user's work environment

System Security

- Create the /var/adm/loginlog file to save failed login attempts
- Monitor system usage with the commands finger, last, and rusers
- Use the su command to become the root user or another user on the system
- Modify the /etc/default/login file to restrict root access
- Use the commands id and groups to identify users and their group memberships
- Change a file's owner or a file's group using the commands chown and chgrp, respectively
- Explain how the special permissions setuid, setgid, and the Sticky Bit can affect system security
- Create, modify, and delete ACLs on files
- Control remote login access by maintaining three basic files: /etc/host.equiv, \$HOME/.rhosts, and /etc/ftpusers

The Directory Hierarchy

- Identify the four main file types in the Solaris Operating Environment
- Describe the functions provided by regular files, directories, symbolic links, device files, and hard links
- Define the function of each subdirectory found directly within the root directory

Device Configuration

- Describe the disk components: sectors, tracks, and cylinders
- Define the term disk slice
- Identify a disk device by its logical device name, physical device name, and instance name
- Describe the purpose of the /etc/path_to_inst file
- List a system's device configuration information using the prtconf command
- Display the system's current disk configuration using the format command
- Show how to invoke a reconfiguration boot after adding a peripheral device to the system
- Describe how devices are reconfigured using the devfsadm command

Disks, Slices, and Format

- Explain the term disk slice
- Describe and create a disk label
- Define and modify a partition table using the format utility
- Describe the purpose of the /etc/format.dat file
- Use the format utility to save and retrieve customized partition tables
- Demonstrate how to view the disk's volume table of contents (VTOC) using two different commands: verify and prtvtoc
- Use the fmthard command to update the VTOC on a disk

The Solaris Operating Environment ufs File Systems

- Describe the three different types of file systems in the Solaris Operating Environment
- Define the term file system
- List the components that are contained in the structure of a file system
- Create a new ufs file system using the newfs command

Mounting File Systems

- Define the term mount point
- Identify mounted and unmounted file systems
- Mount file systems using the commands mount and mountall
- Describe some of the commonly used options of the mount command: noatime, nolargefiles, and logging
- Describe the purpose and format of the /etc/mnttab and /etc/vfstab files
- Define the procedure for mounting different types of file systems
- List the system files used to determine a file system's type
- Unmount local and remote file systems using the commands umount and umountall
- Forcibly unmount a busy file system
- Describe how to mount and access file systems residing on removable media devices, such as diskettes and CD-ROMs

Maintaining File Systems

- Describe why fsck is necessary
- Describe how to check and repair a file system
- Display disk space usage by file systems
- Display disk usage of a directory
- Display disk usage by user name
- Demonstrate how to repair the /etc/vfstab file when the system fails to boot completely

Scheduled Process Control

- Start the Common Desktop Environment (CDE) Process Manager to monitor and control active processes
- Report active process statistics using the prstat command
- Schedule the automatic execution of commands, programs, or scripts using the commands at and crontab
- Define the files used to control user access to the commands at and crontab
- Create and execute an at job
- Describe the location and format of a crontab file
- Demonstrate the steps to create, view, edit, and remove a crontab file

The Solaris Operating Environment LP Print Service

- Describe the basic functions of the Solaris Operating Environment LP print service
- Define the important LP print service directories, files, and daemons
- Describe the function of a print server and a print client
- Define the terms local printer, network printer, and remote printer
- Use the Solaris 8 Print Manager to configure a network printer
- List the resources used by the print service to locate the destination printer
- Discuss the differences between the local printing process and a remote printing process
- Use the print service administration commands: accept, reject, enable, disable, and lpmove
- Configure the LP print services from the command line using lpadmin

The Boot PROM

- Describe the main functions of the boot programmable read-only memory (PROM) chip and the nonvolatile random access memory (NVRAM) chip
- Explain the basic elements of the power-on self-test (POST) and the purpose of the Stop key to control the POST
- Invoke some common boot PROM commands from the ok prompt to customize how the system boots
- Use boot command options to boot a system in different situations
- Demonstrate how to display the device tree to list all the configured devices using the show-devs command
- Use the probe- commands to identify what peripheral devices (disks, tape drives, or CD-ROMs) are currently connected to the system
- Determine a system's default boot device using the devalias command
- Create a custom device alias name for a new boot device using the nvalias or nvedit commands
- Delete a custom device alias name with the nvunalias command.
- Use the eeprom command within the Solaris Operating Environment to view or change the values of NVRAM parameters
- Demonstrate the steps to interrupt an unresponsive system

The System Boot Process

- Describe the four phases of the boot process
- Understand the kernel
- Identify the directories that contain the kernel and its loadable modules
- Modify the kernel's configuration file
- Describe the eight Solaris Operating Environment run levels
- Define a system's current run level using the who -r command
- Explain the purpose of the /etc/inittab file
- Describe the steps in the init process to bring a system to multiuser mode
- List the directories that hold the run control scripts used to stop and start system processes and services
- Describe the steps to add a new run control script
- Use the following commands to shut down the system: init, shutdown, halt, poweroff, and reboot

Installing the Solaris 8 Operating Environment on a Standalone System

- State the different installation methods available for the Solaris 8 Operating Environment software
- Explain the hardware requirements for a Solaris 8 Operating Environment installation
- Identify the different Solaris 8 Operating Environment software CD-ROM editions
- Describe the five Solaris Software Groups

Administering Software Packages

- Describe a software package
- View software package information using the pkginfo command
- Add a software package from the Solaris Software CD-ROM using the pkgadd command
- Verify the attributes and contents of a software package using the pkgchk command
- Remove a software package installed on the disk using the pkgrm command
- View, add, and remove software packages using admintool
- Add and remove a software package from a spool directory using pkg add and pkgrm

Managing Software Patches

- List the locations to access patches
- Explain how to access patches from the World Wide Web and anonymous ftp
- Describe the different patch formats
- Prepare a patch for installation
- Install a patch using the patchadd command
- Demonstrate how to verify what patches are currently installed
- Remove a patch using the patchrm command

Backup and Recovery

- Identify the logical device names for tape drives
- Define the two different types of file system backups
- Back up a file system to tape using the ufsdump command
- Describe how to backup a file system to a remote tape drive
- Explain the purpose of the /etc/dumpdates file
- Restore a file system from tape using the ufsrestore command
- Describe the procedure for recovering file systems
- Use the tar command to manage multiple archives
- Use the mt command to control the actions of the tape drive
- Use the fssnap command to create a ufs snapshot of a mounted file system for backup purposes.