

# Solaris Operating System Administration for Experienced UNIX Administrators (STS-276-S10, 5 days)

## Course Description

The Solaris Operating System Administration for Experienced UNIX(R) Administrators course provides students with the necessary knowledge and skills to perform core system administration tasks in the the Solaris 10 Operating System (Solaris 10 OS). This course is intended to provide experienced UNIX administrators with information about core Solaris concepts, and focuses on practical experience implementing Solaris features through lab exercises. Training is provided in an instructor-led, classroom environment on SPARC-based systems. Additionally, this course comes with a subscription to a web-based course. This course provides the student with the differences related to the x86 environment in the topics that are covered in the instructor-led training.

## Who Can Benefit

Students who can benefit from this course should already be familiar with standard system and network administration tasks in their native UNIX environment. This course provides the skills necessary to adapt those administration skills to Solaris 10 OS equivalents.

## Required Prerequisites:

- Manage files and directories
- Use the vi editor
- Control the user work environment
- Manage file systems
- Solaris 10 Operating System Essentials (SA-100-S10)

## Suggested Prerequisites:

- Install operating system software
- Perform system boot procedures
- Perform user and security administration
- Perform system backups and restores

## Skills Gained

Upon completion of this course, you should be able to:

- Install the Solaris operating system and administer software packages and patches
- Demonstrate familiarity with Boot PROM commands & overview of GRUB that is used in x86
- Understand Service Management Facility, SMF
- Demonstrate proficiency using the Solaris devices & also Volume Manager
- Administer & configuration of Role-Based Access
- Manage swap, core, crash dump.
- Understand basic concepts related to Solaris Zones & ZFS
- Configure advanced installation using custom Jumpstart & Live Upgrade

## Suggested Next Courses:

- Solaris System Performance Management (SA-400)
- Sun Systems Fault Analysis Workshop (ST-350)
- Network Administration for the Solaris 10 Operating System (SA-300-S10)

## Outline

### Introducing the Solaris 10 OS Directory Hierarchy

- Define file systems
- Identify file components
- Identify file types
- Describe hard links

### Solaris 10 Operating System Installation Requirements

- Identify hardware requirements for Solaris 10 OS installation
- Identify the fundamentals of Solaris 10 OS installations
- Identify the Solaris OS software components
- Define guidelines for installing Solaris OS from a DVD
- Describe the Secure by Default installation enhancement

### Performing Solaris 10 OS Package Administration

- Describe the fundamentals of package administration
- Administer packages using the command-line interface

### Managing Software Patches on the Solaris 10 OS

- Describe patch administration fundamentals
- Describe patch administration best practices
- Obtain patches using SunSolve
- Install and remove patches
- Install recommended patch clusters
- Implement patch management using the smpatch command line

### Using Boot PROM Commands

- Identify boot programmable read-only memory (PROM) fundamentals
- Use basic boot PROM commands
- Identify the system boot device
- Create and remove custom device aliases
- View and change non-volatile random access memory (NVRAM) parameters from the shell
- Interrupt an unresponsive system

### Using the Grand Unified Bootloader

- Discuss the purpose of the Grand Unified Bootloader (GRUB)
- Describe GRUB terminology and basic functions
- Modify x86 system boot behavior in the Solaris OS
- Use the eeprom command
- Use the kernel command
- Use the findroot command
- Describe and manage GRUB boot archives
- Boot a system in the GRUB-based boot environment

## REGISTRATION AND INFORMATION

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## Service Management Facility

- Describe the Service Management Facility (SMF) features
- Compare run levels and SMF milestones
- Use SMF administrative commands

## Managing Local Disk Devices

- Describe the basic architecture of a disk
- Manage disk labels
- Describe the naming conventions for devices
- Describe support for iSCSI target devices
- List system devices
- Reconfigure devices
- Perform hard disk partitioning
- Describe EFI disk labels

## Managing Solaris OS UFS File Systems

- Identify disk-based, distributed, and pseudo file systems in the Solaris OS
- Describe Solaris OS UFS file systems
- Create a new UFS file system
- Check a file system using the fsck command
- Resolve file system inconsistencies
- Monitor file system use

## Performing Mounts and Unmounts

- Identify mounting basics
- Perform mounts
- Mount ZFS file systems
- Perform unmounts
- Repair important files if boot fails
- Access a mounted diskette, CD-ROM, or DVD
- Restrict access to a mounted diskette, CD-ROM, or DVD
- Access a diskette, CD-ROM, or DVD without volume management (vold)

## Configuring Role-Based Access Control (RBAC)

- Describe RBAC fundamentals
- Describe component interaction within RBAC
- Manage RBAC

## Configuring Solaris Volume Manager Software

- Describe Solaris Volume Manager software concepts
- Build a RAID-0 (concatenated) volume
- Build a RAID-1 (mirror) volume for the root (/) file system

## Introduction to the ZFS File System

- Describe the Solaris ZFS file system
- Understand ZFS terminology
- Create new ZFS pools and file systems
- Modify ZFS file system properties
- Destroy ZFS pools and file systems
- Work with ZFS snapshots and clones

## Managing Swap Configuration, Core Files, and Crash Dumps

- Configure swap space
- Manage core file file behavior
- Manage crash dump behavior

## Describing Interface Configurations

- Control and monitor network interfaces
- Configure Internet Protocol version 4 (IPv4) interfaces at boot time

## Identify the different zones features

- Identify the different zones features
- Understand how and why zone partitioning is used
- Install, Configure, Boot, Move, Migrate, and Delete zones
- Administer packages with zones
- Upgrade the Solaris 10 OS with installed zones
- Use 1x Branded Zones

## Configuring JumpStart

- Installation Using the Solaris 10 Operating System
- Describe the JumpStart configurations
- Implement a basic JumpStart server for SPARC(R) and x86/x64 clients
- Describe booting x86/x64 systems using the Preboot Execution Environment (PXE)
- Set up a DHCP server to support x86/x64 JumpStart clients
- Set up JumpStart software configuration alternatives
- Set up JumpStart to create a ZFS mirrored root pool
- Troubleshoot JumpStart configurations

## Performing Live Upgrade Using the Solaris 10 Operating System

- Describe the Solaris Live Upgrade process
- Identify the Solaris Live Upgrade commands
- Create an alternate boot environment cloned from a running system
- Create a differential flash archive in a Live Upgrade boot environment
- Modify the state of the new boot environment
- Extend a base boot environment with a differential flash archive
- Use Live Upgrade to patch a system
- Use JumpStart to implement a Live Upgrade environment

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