

**Course Name:** Advanced System Administration For the Solaris 10 Operating Environment

**Length:** 4 1/2 days

**Prerequisite:** Intermediate System Administration for the Solaris 10 Operating Environment

To succeed fully in this course, students should already know how to:

Manage files and directories • Control the user work environment • Archive files • Use remote commands • Manage file systems • Install software • Perform system boot procedures • Perform user and security administration • Manage network printers and system processes • Perform system backups and restores • Understand system startup procedures and the SMF

**Course Description:**

This course teaches advanced topics in Solaris system administration. The operating system will be Solaris 10 (SunOS 5.10)- Sun's implementation of SystemV release4. The course is taught on a Sun Sparc workstation. The objective is to prepare the student for the Certified Solaris System Administrator Examination – Part 2 (CX-310-202).

**Note:** This course is also available for Solaris 9, 8, 7, and 2.6

**Upon completion of this course, the student will be able to:**

- Describe network basics
- Describe remote administration with the Solaris Management Console software
- Manage virtual file systems and core dumps
- Manage storage volumes
- Control access and configure system messaging
- Configure role-based access control (RBAC)
- Set up name services
- Perform advanced installation procedures
- Configure the custom JumpStart procedure
- Perform a Flash installation

# Advanced System Administration For the Solaris 10 Operating Environment

## Course Outline

### **Advanced Installation**

- Performing a Flash Installation
  - Describe a Flash install
  - Manipulate a flash archive
  - Using a flash archive for installation
  - WANboot Flash installation

### **JumpStart**

- Overview
- Preparing a Custom Jumpstart Installation
- What Happens During a Custom JumpStart Installation
- Setting up the Server
- Setting up the Install Server
- Setting up the Boot Server
- The rules File
  - Validating the rules File
  - Begin and Finish Scripts
- Creating Profiles
  - Profile Keywords
  - Testing the profile
- Example Jumpstart Installation

### **Introduction to Zones**

- Identify the different zones features
- Understand how and why zone partitioning is used
- Configure zones
- Install zones
- Boot zones

### **Role Based Access Control (RBAC)**

- Describe RBAC fundamentals
- Overview of Roles
  - Authorizations
  - Rights profiles
- Using RBAC
  - Manage RBAC by using the Solaris Management Console
  - Manage RBAC by using the command line
- Describe RBAC components and their interaction within RBAC

### **The Solaris Management Console (SMC)**

- Describe the function of the Solaris Management Console
  - SMC tools
  - SMC commands
- The SMC Toolbox
- Using SMC
- Customizing the SMC

### **Configuring Access Control Lists (ACL's)**

- Describe ACLs
- Setting ACL's
- Manipulate ACLs using the command line
- Manipulate ACLs using the File Manager graphic user interface (GUI)
- Create default ACLs

### **Device Administration**

- Device Drivers
- Physical Device names
- Device Auto-Configuration
- Instance names
- Major and Minor Device numbers
- Logical Device names
- Meta devices
- Hardware Terminology
  - Ports
  - Terminals
  - Modems
  - Cabling
- Software Terminology
  - Service Access Controller (SAC)
  - Port Monitors
    - ttymon
    - listen
    - Port Monitor Tag (pmtag)
    - Service Tag (svctag)
  - Administering Terminals, Modems, and Ports
    - Adding a Modem Through the Admintool
    - Service Access Facility (SAF)
      - sacadm
      - pmadm
      - ttyadm
      - nlsadmin
- Setting Up Modems and Terminals by Using SAF
- Adding a Terminal to a serial connection

### **Managing SWAP Space**

- Describe swap and virtual memory concepts
- Configure and manage swap space

### **Managing Crash Dumps and Core Files**

- Manage crash dump behavior
- Manage core file behavior

### **Using the Solaris Volume Manager Software**

- Describe redundant array of independent disks (RAID)
  - Define each RAID configuration and where they are applicable
- Describe Solaris Volume Manager software concepts
- Use the SVM utilities to configure disks
  - Distribute the state database replicas
  - Build a mirror of the root (/) file system

### **Networking**

- Network Fundamentals
  - Network Topologies
  - Network Protocols
  - Network Hardware
- Configuring and Monitoring network interfaces
- Planning the Network
- Setting Up the Network
  - /etc/hostname.interface
  - /etc/nodename
  - /etc/defaultdomain
  - /etc/inet/hosts
- Network Security Files

- The secure shell
- IP Addressing
- Name Service
- TCP/IP Commands (ie. telnet, ssh, rlogin, rcp, rsh, rexec, ftp, rwho, finger)
- Network Maintenance

### **The NFS/AutoFS Environment**

- Servers and Clients
- The benefits of NFS on Solaris
- NFS Daemons
- Setting up NFS
- NFS Security
- NFS logging
- Mounting a Remote File System
- WebNFS
  - How to Enable WebNFS Access
  - Using a Browser to Access an NFS URL
- Describe the fundamentals of the AutoFS file system
  - AutoFS Maps
    - Master Map
    - Direct Map
    - Indirect Map
  - When to use Automount

### **Name Services**

- Describe the Name Service concept
  - Local files vs. A naming service
- Structure of the NIS Network
  - Server, slaves, and clients
- Information Managed by NIS
- Planning your NIS Domain
- Configuring an NIS Master Server
  - Creating the Master passwd File
  - Creating the Master group File
  - Creating the Master hosts File
  - Other Source Files
  - Preparing the Makefile
- Setting Up the Master Server With ypinit
- Starting and Stopping NIS on the Master Server
- Name Service Switch
  - Setting up NIS Clients
  - Setting Up NIS Slave Servers
- NIS+
  - Hierarchical Namespace
  - NIS+ Tables
  - NIS+ Security
    - Authentication
    - Authorization
- DNS
  - Configuring the DNS client
- LDAP
  - iPlanet Directory Server
    - Setting up the LDAP client

### **Configuring System Messaging**

- Describe the fundamentals of the syslog function
  - Important system log files
  - Configure syslog messaging
- Using the Solaris Management Console log viewer

Monitoring Users and System Usage

Monitoring loggins

Describe the trusted host

/etc/hosts.equiv

.rhosts

Securing and restricting super user access

RBAC

SUDU

ASET

Other security issues

### **Monitoring System Performance**

Using Solaris tools to monitor system and network performance

Solaris 10 performance measuring tools to monitor:

CPU

Disk I/O

RAM and SWAP

### **Overview of the Solaris Certified System Administrator Certification Process**

Why become certified?

Overview of the testing process

How to prepare for the exams

What to expect on the exams