

## Transition to Oracle Solaris 11

### Course Summary

**Length:** 5 Days

**Prerequisite:** Solaris 10 Administration Experience

**Recommendation Statement:**

It is assumed that the student has an understanding of Solaris 10 System Administration with at least 3 months of experience.

**Course Description:**

This is an advanced course in Solaris 11 system administration. The course teaches skills which build on current Solaris 10 system administration skills. The course focuses on topics required to help Solaris 10 administrators make the move from Solaris 10 to Solaris 11. The course does not teach system administration tasks currently supported on Solaris 10 or previous versions of Solaris.

The course highlights all of the new features in Solaris 11.1

**Topics covered:**

- Solaris 11 New Features and Enhancements
- Understand the new Image Packaging System (IPS) and Managing Repositories
- Manage Software Packages in Solaris 11 using IPS
- Understand how to Utilize Boot Environments to improve system uptime
- Understand changes in the boot and shutdown process
- Understand user environment enhancements
- Understand the methods used to install the Solaris 11 OS
- Understand how to create custom images
- Understand how to use the Automated Installer (AI) to Provision Systems
- Understand issues and methods for migrating from Solaris 10 to Solaris 11
- Administering Solaris 11 (and solaris10 brand) Zones including Immutable Zones
- Understand changes in Network Service administration
- Understand VNICs and Virtual Networking
- Solaris 11 Storage Enhancements and New ZFS Features
- Understand the ZFS boot disk including backup and recovery techniques
- Solaris 11 Security Enhancements and new RBAC features
- Compare Solaris 11 enhancements to existing Solaris 10 Features
- Understand Security Enhancements in Solaris 11
- Performance management in the Solaris 11 Environment

## Transition to Solaris 11 System Administration

### Detailed Course Outline

#### **Solaris 11 New Features and Enhancements**

- Oracle Solaris 11 New Features and Enhancements (11.1)
- What's new and what's different from Solaris 10
- Best practices for moving from Solaris 10 to Solaris 11

#### **Solaris 11 boot and startup**

- What has changed in the boot up and shutdown process (ie. Fast reboot, ZFS boot drive, GRUB2)
- SMF changes including using `svcbundle` to create manifests and services
- Understand how SMF has replaced many of the configuration files
- Understand how to customize SMF, configuring notifications including the use of `editprop`, `delcust` and `listcust`

#### **User Environment Changes**

- Open Source packages
- BASH shell
- Enhanced desktop
- Enhanced manual pages
- Virtual console terminals
- CUPS printing

#### **Managing and Updating Software with IPS**

- Understanding IPS and the IPS Repository
- Understand software packaging changes
- Use IPS Components
- Understand the local package repository
- Describe how to create a local IPS Repository
- Describe how to create a repository mirror
- Understand how to update the local IPS repository
- Understand how to setup multiple repositories
- Describe how to setup an IPS Client
- Understand the software update manager
- Understand Boot Environments (BE's) and how they are utilized in Solaris 11 (and how they have changed from Solaris 10)

#### **Installing the Solaris 11 Operating Environment**

- Describe the methods of installing Solaris 11
  - Live Media GUI Installer
  - Text Installer
  - Automated Installer
- Describe the upgrade process: Upgrading From a Previous Version of Solaris
- Updating the Solaris 11 OS with an SRU
- Understand how to configure a Solaris 11 Automated Installation (AI)
- Compare AI to JumpStart
- Learn how to configure an AI Server
- Understand the AI Manifests
- Understand how to create and use system Configuration Profiles
- Understand the Distribution Constructor
- Learn how to build a custom OS Image using the Distribution Constructor

### **Solaris 11 Zones**

- Zone features and enhancements
- solaris10 brand zones
- Migrating Solaris 10 Zones to Solaris 11 (V2V)
- Migrate a Solaris 10 Global Zone to a solaris10 brand zone in Solaris 11 (P2V)
- The P2V and V2V preflight checker
- Configure a non-global zone using the AI installer
- Configure an NFS server in a zone
- Zone manifests and profiles
- Exclusive-IP zones
- Virtual Network: Understand VNICs and creating VNICs for a zone
- Monitoring zones and resources: using the new monitoring tools
- Delegated zone administration
- Zone Boot Environments (BEs)
- Zone ZFS dataset layout improvements
- Enhanced shutdown procedures for a zone
- Create and manage Immutable zones

### **Solaris 11 Network Administration**

- Understand the network enhancements and architecture changes
- Manual / Automatic networking
- Datalinks
- Understand Reactive Networks (formerly NWAM)
- Learn how to configure a Reactive Network
- Learn how to configure a Fixed Network
- Network administration through ipadm and dladm
- Virtual Networking (building/configuring/managing)
- Configuring and monitoring IP Multipathing (IPMP) and Aggregation
- Load balancing
- Enhancements to IP observability
- NFS and SMB sharing
- Mirror NFS mounts

### **Storage Enhancements**

- New ZFS Features including: Temporary mounts, snapshot alias, shadow migration, encryption)
- Understand the ZFS root disk (boot and recovery procedures)
- ZFS Shadow Data Migration
- Configuring and Splitting mirrored storage pools
- Tools to identify ZFS snapshot differences (ZFS Diffs)
- Deduplication
- Time slider snapshots
- COMSTAR overview
- Configuring COMSTAR
- Recovering ZFS storage pools
- ZFS backup and recovery techniques on the boot drive

### Security Enhancements

- The root role
- Cryptographic Framework
- ZFS Pool and Dataset Encryption
- Basic Audit Reporting Tool (BART)
- Changes in Role Based Access Accounts (RBAC)
- rsyslog