

Transitioning to Oracle Solaris 11.1

COURSE DESCRIPTION

This course presents to an **Oracle Solaris 10** user, systems administrator, or application/system programmer, the techniques needed to effectively and successfully move to **Oracle Solaris 11.1**.

COURSE OBJECTIVES

Each participant will see and use the new and modified areas and features of **Oracle Solaris 11.1**. Hands-on usage and lab exercises will be performed with **Solaris 11.1** virtual machines (for each participant), along with one (1) **IPS** repository server (for each participant).

The overall **emphasis** will be to build on a **Solaris 10** knowledge base, showing all of the **important** and **useful features** and **capabilities** that are needed for the **best** effective **use** of **Solaris 11.1**.

COURSE TOPICS

User- and Programmer- Level New Features and Changes

- removed and deprecated utilities
- new and improved (system) utilities
- shells (**bash** and **Korn**)
 - change in default shell
 - change in **root** account **environment**
 - comparison** of **bash** and **ksh scripting** features

Installing and Upgrading Solaris 11.1

- changes to the **Solaris** installation media
- methods of starting a **Solaris 11.1** installation
 - text and automated installer (**AI**)
 - JumpStart** migration
- post installation operations
- creating a customized **AI** server
- creating custom installation media (**Distribution Constructor**)

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COURSE TOPICS

Software Packaging and Installation

- Image Packaging System (**IPS**)
- IPS** repositories and operations
- compatibility with the **pkg*** utilities

Boot and Startup Mechanisms

- changes in **Solaris 11.1** startup
- new areas controlled by **SMF**
 - building a customized manifest
 - interacting with **startd** and **configd**
- new **GRUB 2** loader features (**bootadm** enhancements)

Zones

- new features and enhancements
 - Solaris 11.1** implementation
 - creation and usage of control daemons
 - mirrored storage pools
 - migration of **Solaris 10** zones (**P2V** or **V2V**)
 - virtual networking capabilities
 - creating a **VNIC**
 - connecting a zone with a **VNIC**
 - package management
 - patch control, addition, removal
 - Solaris 11.1** update considerations with active zones
 - renaming, moving, cloning, migrating zones

Zone I/O Performance Management

- daemon control
- zpool** creation considerations
 - SMF** service(s) (overhead)
 - disabling unnecessary services

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COURSE TOPICS

Networking

- new utilities and enhancements
 - Auto-magic (**NWAM**)
 - network configuration profiles and locations
 - creating and using **flows**
 - IPMP**

User Account Security

- new and improved features
 - password hashing algorithms
 - data encryption

General Utilities

- User and Programmer
 - replacement of **vi** with **vim**
 - vim** setup and initialization
 - old and new style general utilities
- Systems Administrator
 - removal of **Bourne** shell
 - new **/root** home directory

Storage

- ZFS** new and enhanced storage features
 - deduplication
 - snapshots
 - zpool** (mirror) split
- UFS** changes
- COMSTAR**

ZFS I/O Performance Management

- zpool** creation considerations
- ZFS** file system parameters
- ZFS** compression performance
- controlling the **ZFS ARC** and **L2ARC**
- using the **zdb** utility

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COURSE TOPICS

Security Features in Solaris 11.1

BART

configuring and using **targeted auditing**
file and Directory **ACLs**
role Based Access Control (**RBAC**)
Principle of Least Privilege (**PLP**)
assigning privileges to users and programs

Solaris 11.1 Performance Monitoring Capabilities

kstat (command, modules, libraries)
dtrace (introduction to usage)
kernel tunables (viewing, changing)

COURSE DURATION

This course requires **four (4)** or **five (5)** days, 50% lecture and hands-on commands, and 50% lab exercises.

COURSE PREREQUISITES

It is assumed that the participant has **experience** with **Solaris 10** in the capacity of a (general) user, programmer, system administrator, network analyst/administrator, or performance management specialist.