Virtual Sysadmin Day: Oracle Solaris, Oracle Linux, and Oracle VM

Get your hands dirty with the file systems, install images, and management tools of Oracle Solaris, Oracle Linux, and Oracle VM in our proctored hands-on labs.

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Agenda and Abstracts for

Virtual Sysadmin Day: Oracle Solaris, Oracle Linux, and Oracle VM

Monday July 15th, 2013

9:00 a.m PT. – 1:00 p.m. PT/12:00 p.m. ET – 4:00 p.m. ET/1:00 p.m. BRT - 5:00 p.m. BRT

	Track 1 Oracle Solaris	Track 2 Oracle Linux	Track 3 Oracle VM
08:45 AM	Platform Opening		
9:00 am	Keynote: Oracle Operating Systems and Virtualization		
9:15 AM	Oracle Solaris 11 Feature Map and Lab Agenda	Oracle Linux Technology Overview (PPT + DEMO)	Oracle VM Server Virtualization Architecture and Technology Overview (PPT)
9:45 AM	Part I: Storage and Web Layers	Package Management (Intro and Set-up: 20 min; HOL support: 40 min.)	Deploying Infrastructure as a Service (Step by step HOL)
10:45 AM	Part II: Database and Application Layers	Storage Management (Intro and Set-up: 20 min; HOL support: 40 min.)	Virtualize and Deploy Oracle Applications Using Oracle VM Templates (16Gig RAM required) (Step by step HOL)
11:45 AM	Part III: Resource Monitoring and Packaging	File System: Btrfs (Intro and Set-up: 20 min; HOL support: 40 min.)	x86 Enterprise Cloud Infrastructure (Step by step HOL)

* Homework – Please install and set up the HOL for whichever track you want to attend before hand so you get the most out of this event. Instructions can be found on the event wiki https://wikis.oracle.com/display/virtualsysadminday/Home

Abstracts

Track 1: Oracle Solaris

Oracle Solaris 11 Feature Map and Lab Agenda – In the opening Oracle Solaris hands-on-lab session we will discuss the most important Oracle Solaris 11 features and how they work together to enable modern virtualization and cloud computing capabilities. This lab will be divided into 3 parts where we will build a secure, multi-level application deployed using virtualization capabilities included in the operating system. We will also demonstrate how to monitor this application and manage system resources appropriately. This lab will look at deploying Wordpress using Apache as the web server and MySQL as the database, and the Oracle Solaris ZFS file system as the underlying storage layer. We recommend that participants attend all parts to this lab in order.

Part I: Storage and Web Layers – In the first Oracle Solaris hands-on-lab-session, we will use the ZFS file system to set up storage for our application and introduce participants to Oracle Solaris Zones as our primary virtualization environment for our web, database and application layers. We will also cover network virtualization to create virtualized network interfaces and switches to communicate between our virtualized environments.

Part II: Database and Application Layers – In the second Oracle Solaris hands-on-lab session, we will take advantage of Oracle Solaris Zone cloning to rapidly provision new virtualized environments for our database and application layers, and demonstrate how our application can easily be secured and protected using the Immutable Zones feature of Oracle Solaris Zones providing a read-only environment.

Part III: Resource Monitoring and Packaging – In the final Oracle Solaris hands-on-lab session, we will demonstrate how to monitor and manage virtualized resources using various integrated system commands available on the system. We will also create and publish a new software package for a simple monitoring script using the Image Packaging System (IPS).

Track 2: Oracle Linux

Oracle Linux Technology Overview - In this session we will go over the latest Oracle Linux features including tools for Linux administration such as the Unbreakable Linux Network (ULN) and public yum. We will also show you a demo of Ksplice zero downtime kernel updates, only available to Oracle Linux customers. You will see how easy it is to switch from Red Hat support to Oracle Linux support by using ULN. Last but not least, we'll introduce the 3 hands-on labs that will follow this session in the Linux track.

Package Management - In this hands-on lab session, you will be Installing and configuring Oracle VM VirtualBox, importing the Oracle Linux virtual appliance. You will then use the package management on Oracle Linux using RPM and yum. Some of the tasks that you will experience include listing installed packages, obtaining additional information about packages, searching for packages and installing/updating them as well as verifying package integrity and removing software. We'll also review Linux services and run levels, how to start and stop them, checking the status of a particular service and enabling a service to be started automatically at system boot.

Storage Management - In this hands-on lab session, you will learn about storage management with LVM2, the Linux Logical Volume Manager, preparing block devices, creating physical and logical volumes, creating file systems on top of logical volumes, and resizing file systems dynamically. You will also practice setting up software RAID devices, configuring encrypted block devices.

Btrfs File System - In this hands-on lab session, we will introduce you to Btrfs file system. You will be able to create and mount a Btrfs file system and learn to setup a mirrored/striped file system across multiple block devices. You'll also learn how to add and remove block devices, and create file system snapshots.

Track 3: Oracle VM

Oracle VM Server Virtualization Architecture and Technology Overview –Oracle VM's innovative application-driven architecture delivers value beyond simple server consolidation by focusing on the application stack, ease of management and cloud services enablement. This session will delve into the Oracle VM architecture and key features. We'll also introduce the 3 hands-on labs that will follow this session.

Deploying Infrastructure as a Service - Planning and deployment of an infrastructure as a service (IaaS) environment with Oracle VM as the foundation. Storage capacity planning, LUN creation, network bandwidth planning, and best practices for designing and streamlining the environment so that it's easy to manage. This is a hands-on lab.

Virtualize and Deploy Oracle Applications Using Oracle VM Templates - How to deploy Oracle applications in minutes with Oracle VM Templates. Step-by-step lab proctored by field-experienced engineers and product experts. Covers:

- Find out what Oracle VM Templates are and how they work

- Deploy an actual Oracle VM Template for an Oracle Application

- Plan your deployment to streamline on going updates and upgrades

x86 Enterprise Cloud Infrastructure - This hands-on lab will demonstrate what Oracle's enterprise cloud infrastructure for x86 can do, and how it works with Oracle VM 3.x. It covers:

- How to create VMs

- How to migrate VMs

- How to deploy Oracle applications quickly and easily with Oracle VM Templates

- How to use the Storage Connect plug-in for the Sun ZFS Storage Appliance