Oracle Linux System AdministrationNEW

Duration: 5 Days

What you will learn

The Oracle Linux System Administration course covers a range of skills including installation, using the Unbreakable Enterprise Kernel, configuring Linux services, preparing the system for the Oracle Database, monitoring and troubleshooting.

This course teaches you how to handle typical issues faced by administrators in areas including authentication, securing and monitoring. You learn to understand the kernel development model and learn about Linux distributions. You hear about Oracle's comprehensive solutions and Oracle's contributions to the Linux community.

Learn To:

Enable kernel features.
Set up users and groups.
Configure system logging, the boot process, the network,and storage.
Install additional software packages .
Keep the kernel up to date using Ksplice.
Configure services such as NFS, FTP, OpenSSH, PAM.

Benefits To You
Oracle Linux brings you the latest Linux innovations, delivering extreme performance, advanced scalability, and reliability for enterprise applications and systems. Implementing Ksplice provides you zero down time kernel updates.

Audience

Database Administrators
Support Engineer
System Administrator
Technical Administrator

Related Training

Required Prerequisites

Must complete the Unix Basics pre-requisite course or equivalent knowledge

Types of user accounts

Unix shell command line features

Working with files and directories in Unix

UNIX and Linux Essentials

Suggested Prerequisites
Archiving and compressing files in Unix

Basic shell scripting

Text editing using vi

Unix process control

Course Objectives

Load and configure the Unbreakable Enterprise Kernel

Maintain swap space

Install Oracle Linux

Load kernel modules and configure kernel module parameters

Perform User and Group administration

Create file systems

Use Logical Volume Manager (LVM)

Configure RAID devices

Configure File Sharing services (NFS, FTP, OpenSSH)

Perform Security Administration (iptables, chroot, TCP wrappers)

Prepare Oracle Linux system for Oracle database

Troubleshoot problems and perform corrective action

Install software packages from Unbreakable Linux Network and other repositories

Use Ksplice to update the kernel on a running system

Configure system logging

Course Topics

Course Introduction
Virtualization
Elements of course environment
Course structure

Introduction to Oracle Linux
Development of Linux Kernel
Linux kernel development model
Linux distributions
Oracle's commitment to the success of Linux
Oracle's technical contributions to the Linux community
Oracle's Unbreakable Enterprise Kernel (UEK)

Installing Oracle Linux
Obtaining Oracle Linux
Oracle Software Delivery Cloud
Anaconda installer
Installation steps
Firstboot tool

Linux Boot Process
Linux boot process
init process
SysV init runlevels
/etc/rc.d directory
Configure services for runlevels
Xinetd service
Upstart

System Configuration
Configuring system time
Using Network Time Protocol (NTP)
System configuration files
The proc filesystem
The sysfs filesystem
The sysctl utility

Package Management
Introduction to Oracle Linux package management
The rpm utility
Oracle Public Yum server
Yum configuration
Yum utility
Oracle Unbreakable Linux Network (ULN)
ULN channels
Switching from RHN to ULN

Ksplice
Introduction to Ksplice
How Ksplice works
Ksplice implementation
Installation instructions
Using Ksplice Uptrack
Ksplice Uptrack command summary
Ksplice Offline Client

Automate Tasks

Automating system tasks
Configuring cron jobs
Other cron directories and files
The crontab utility
Configuring anacron jobs
The at and batch utilities

Kernel Module Configuration
Loadable Kernel Modules (LKM)
Using the lsmod utility
Using the modinfo utility
Loading and unloading kernel modules
Using the modprobe utility
The insmod, depmod, and rmmod utilities
ASM Cluster File System (ACFS) and ASM Dynamic Volume Manager (ADVM) drivers
Kernel module parameters

User and Group Administration
User and group configuration files
Adding a user account
Modifying and deleting user accounts
Group account administration
User Private Groups (UPG)
Password configuration
User Manager Tools
su and sudo commands

File Systems
Disk Partitions
Partition Table Manipulation Utilities
File System Types
Making File Systems
Mounting File Systems
The /etc/fstab File
Swap Space

Storage Administration
Logical Volume Manager
Physical Volume Utilities
Volume Group Utilities
Logical Volume Utilities
RAID levels

Network Configuration
Network interfaces
Network configuration files
Network interface utilities
Address Resolution Protocol (ARP)
Network interface bonding
Virtual Local Networks (VLANs)
The route utility
NetworkManager

File Sharing
NFS server configuration
The /etc/exports file
Starting the NFS services
The exportfs utility
NFS client configuration
Automounting filesystems
vsftpd configuration options

OpenSSH Service
OpenSSH configuration
Using OpenSSH utilities
The ssh, scp, and sftp utilities
Using the ssh-keygen utility
Connecting to a remote system without supplying a password
Using ssh-agent
Using ssh-add

Pluggable Authentication Modules (PAM)
Introduction to PAM
PAM module types
PAM control flags
PAM implementation examples
The /etc/pam.d/reboot file
The /etc/pam.d/login file

Security Administration
The chroot utility
Implementing a chroot jail
The named and vsftpd services use of chroot jail
Firewall configuration tool
iptables terminology
Beginning optables maintenace
Using the iptables utility
TCP wrappers

Oracle on Oracle
Oracle software user and group accounts
System resource tuning and network tuning
Linux shared memory kernel parameters
Semaphores kernel parameter
File handles and Asynchronous IO (AIO) kernel parameter
Oracle-related shell limits
Configuring HugePages
Oracle ASM

System Monitoring
The sosreport utility
The iostat, mpstat, vmstat, sar, top, iotop, strace, netstat, and tcpdump utilities
Wireshark GUI and tshark CLI
OSWatcher Black Box (OSWbb)
OSWatcher Black Box Analyzer (OSWbba)

Enterprise Manager Ops Center
Spacewalk

System Logging
System log file configuration
rsyslog.conf
Global directives, modules, rules, and templates
Facility/Priority-based filters
rsyslog Actions
rsyslog Templates
Configuring logrotate
Use logwatch

Troubleshooting
Two-phased approach to troubleshooting
Operating system logs
The dmesg utility
Troubleshooting resources
Problem causes
Boot problems
NFS problems