

Oracle Linux 7: System Administration Ed 1 NEW

Duration: 5 Days

What you will learn

The Oracle Linux 7: System Administration training helps you develop a range of skills, including installation, using the Unbreakable Enterprise Kernel, configuring Linux services, preparing the system for the Oracle Database, monitoring and troubleshooting. Work with expert Oracle University instructors to develop expertise using this solution to benefit your business.

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 by using Ksplice.

Understand how implementing Ksplice gives you zero down time kernel updates.

Configure services such as NTP, NFS, FTP, OpenSSH, firewalls and iptables.

Benefits to You

By taking this course, you'll walk away with the knowledge and skills to handle typical issues faced by administrators, while understanding the kernel development model and Linux distributions. Become more familiar with how Oracle Linux brings you the latest Linux innovations, delivering extreme performance, advanced scalability and reliability for enterprise applications and systems.

Audience

Database Administrators

Support Engineer

System Administrator

Technical Consultant

Related Training

Required Prerequisites

Archiving and compressing files in Unix & Performing remote connections and file transfers

Text editing using vi & Unix process control

Types of user accounts & Working with files and directories in Unix

Unix shell command line features & Basic shell scripting

UNIX and Linux Essentials

Suggested Prerequisites

Shell Programming for System Administrators

Course Objectives

Install Oracle Linux 7

Load and configure the Unbreakable Enterprise Kernel

Install software packages from Unbreakable Linux Network and other repositories

Use Ksplice to update the kernel on a running system

Configure system logging

Load kernel modules and configure kernel module parameters

Perform User and Group administration

Create Ext, XFS, and Btrfs file systems

Maintain swap space

Use Logical Volume Manager (LVM)

Configure RAID devices

Configure File Sharing services (NFS, FTP, OpenSSH)

Perform Security Administration (firewalld, iptables, chroot, TCP wrappers)

Prepare Oracle Linux system for Oracle database

Troubleshoot problems and perform corrective action

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 7

Obtaining Oracle Linux 7

Oracle Software Delivery Cloud

Anaconda installer

Installation steps

Firstboot tool

Oracle Linux 7 Boot Process

Oracle Linux 7 boot process

GRUB 2 bootloader

kernel boot parameters

systemd system and service manager

systemd service units

The systemctl utility

systemd target units

System Configuration

Configuring system date time

Using Network Time Protocol (NTP)

Configuring NTP by using Chrony

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

The yum utility

Oracle Unbreakable Linux Network (ULN)

ULN channels

Switching from RHN to ULN

Ksplice

Introduction to Ksplice

How Ksplice works

Ksplice implementation

Ksplice packages on ULN

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

Partitions, File Systems, and Swap

Disk Partitions

Partition Table Manipulation Utilities

File System Types

Making Ext File Systems

Mounting File Systems

The /etc/fstab File

Swap Space

Implementing the XFS File System

XFS: Introduction

Creating an XFS File System

The xfs_growfs utility

The xfs_admin utility

Enabling disk quotas

The xfs_quota utility

Backing up and restoring XFS File Systems

XFS File Systems Maintenance

Implementing the Btrfs File System

Btrfs: Introduction

Creating a Btrfs File System

The btrfs utility

Btrfs Subvolumes and Snapshots

Mounting a Subvolume or Snapshot

Btrfs File Systems Maintenance

Converting Ext File Systems to Btrfs

Storage Administration

- Logical Volume Manager
- Physical Volume Utilities
- Volume Group Utilities
- Logical Volume Utilities
- Backing up and restoring volume group metadata
- LVM Thin Provisioning
- The snapper utility
- Configuring RAID devices

Network Configuration

- Network interface file naming
- Network configuration files
- Starting the Network Service
- The ethtool utility
- NetworkManager
- The nmcli utility
- The ip utility

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

Security Administration

- The chroot utility
- Implementing a chroot jail
- Packet-filtering firewalls
- The firewalld service
- The firewall-config utility
- The firewall-cmd utility
- The iptables service
- 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 Analyzer (OSWbba)
- Enterprise Manager Ops Center
- Spacewalk

System Logging

- System Logging: Introduction
- rsyslog configuration
- Facility/Priority-based filters
- rsyslog Actions and Templates
- Configuring logrotate
- Use logwatch
- Introduction to journald
- The journalctl utility

Troubleshooting

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