

Oracle Linux 7: System Administration Ed 2 NEW

Duration: 5 Days

What you will learn

The Oracle Linux 7: 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. 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 by using Oracle Ksplice.

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

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 Consultant

Related Training

Required Prerequisites

Archiving and compressing files in Unix; performing remote connections and file transfers

Text editing using vi and Unix process control

Types of user accounts and working with files and directories in Unix

Unix shell command line features and basic shell scripting

Suggested Prerequisites

Shell Programming Ed 1

UNIX and Linux Essentials

Course Objectives

Install Oracle Linux 7

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)

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 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

The Unbreakable Enterprise Kernel (UEK)

Oracle Cloud Computing

Infrastructure as a Service (IaaS)

Oracle Private Cloud Appliance

Oracle OpenStack

Oracle Cloud Infrastructure Services

Oracle Cloud Infrastructure Concepts and Terms

Launching Instances

Setting up a Virtual Cloud Network (VCN)

Attaching a Block Storage Volume to an Instance

Installing Oracle Linux 7

Obtaining Oracle Linux

Oracle Software Delivery Cloud

Anaconda installer

Installation steps

Upgrade from Oracle Linux 6

Launching an Oracle Cloud Infrastructure Instance

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

Shutting Down, Suspending, or Rebooting Commands

System Configuration

Configuring System Date and Time

Using Network Time Protocol (NTP)

Configuring NTP by using Chrony

System Configuration Files

The proc File System

The sysctl Utility

The sysfs File System

Package Management

Introduction to Oracle Linux package management

The rpm Utility

Oracle Linux Yum Server

Yum Configuration

The yum Utility

Oracle Unbreakable Linux Network (ULN)

ULN channels

Switching from RHN to ULN

Oracle Ksplice

- Operation and Features of Ksplice
- Ksplice Online and Offline Implementations
- Ksplice Packages on ULN
- Ksplice Implementation in Oracle Cloud Infrastructure
- Ksplice Commands
- The Ksplice Web Interface
- Configure Ksplice Offline Clients to use a Local Ksplice Mirror

Automating 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 Tool
- 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
- Maintaining File Systems
- Swap Space

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

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 System Maintenance

Btrfs File System

Btrfs: Introduction

Creating a Btrfs File System

The btrfs Utility

Btrfs Subvolumes and Snapshots

Mounting a Subvolume or Snapshot

Btrfs File System Maintenance

Converting Ext File Systems to Btrfs

Network Configuration

Network Interface File Naming

Network Configuration Files

Starting the Network Service

The ethtool Utility

NetworkManager

The nmcli Utility

The ip utility

Networking in Oracle Cloud Infrastructure

File Sharing

NFS Server Configuration

The /etc/exports file

Starting the NFS Services

The exportfs Utility

NFS Client Configuration

Automounting File Systems

vsftpd Configuration Options

OpenSSH

OpenSSH Configuration

Using OpenSSH Utilities

The ssh, scp, and sftp Utilities

Using the ssh-keygen Command

Connecting to a remote system without supplying a password

Key Pairs for Oracle Cloud Infrastructure Instances

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 & System Logging

- The sosreport Utility
- The iostat, mpstat, vmstat, sar, top, iotop, strace, netstat, and tcpdump utilities
- OSWatcher (OSWbb)
- Spacewalk
- System Logging: Introduction
- rsyslog configuration
- rsyslog Actions and Templates
- Introduction to journald, journalctl

Troubleshooting

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