

Course Description: Virtualization--the ability for a single system to act as multiple systems--is becoming a key technology in the data center. Virtualization permits more efficient allocation of hardware resources, keeping costs in control while maintaining the security that comes with placing key applications in separate computer silos.

The RH184 Red Hat Enterprise Linux Virtualization course teaches system administrators how to deploy virtualized versions of Red Hat Enterprise Linux, thus taking greater advantage of hardware and other resources.

Who Should Attend: This course is for Linux system administrators who understand how to install and configure a Red Hat Enterprise Linux system and who wish to learn to install, configure, and manage Red Hat Enterprise Linux 5 in a virtualized environment.

Prerequisites: Students should have system administration knowledge under Red Hat Enterprise Linux equivalent to RH131, RH133, or RHCT certification. This knowledge includes: installation, service management (using service and chkconfig, for example), basic system monitoring (using ps and top, and perhaps meminfo and the /proc filesystem), filesystem management (using fdisk and mkfs), and basic troubleshooting (including managing log files, understanding dmesg, and perhaps the use of hardware probing tools such as ethtool and lspci).

Benefits of Attendance: Upon completion of this course, students will be able to:

- Install, configure, and manage virtual hosts on Red Hat Enterprise Linux 5.

Course Outline:

Introduction

Red Hat Enterprise Linux
Classroom Network
Course Objectives
Audience and Prerequisites
Caveats

Introduction to Virtualization

What is virtualization?
Why is virtualization important?
Types of virtualization
Basic architecture of Xen virtualization

Basic Paravirtualized Domain Installation

Preparing for domain installation
Basic installs using virt-manager
Configuring domains to automatically start at boot

Virtual Machine Management

Using generic libvirt-based utilities
Using native Xen utilities

Advanced Installation and Configuration

Syntax of Xen domain configuration files
Virtual Block Devices and types of block storage
Xen and bridged networking
Manual and command-line domain installation

Live Migration

Live migration of Xen paravirtualized domains
Advanced configuration of xend
Live migration issues

Troubleshooting

Differences from a standard environment
Viewing hypervisor log messages and log files
Accessing domain virtual block devices
Common issues

Hardware-assisted Virtualization

Fully-virtualized vs. paravirtualized domains
Installing unmodified OSes