Comprehensive, hands-on training that solves real-world problems

Red Hat System Administration II

RH134-RHEL7-en-1-20140610

redhat.

DAY ONE	DAY TWO	DAY THREE	DAY FOUR
Introduction	Process Priorities	Partitions and Filesystems	Boot Troubleshooting
Kickstart	ACLs	Logical Volumes	Firewalls
Regular Expressions	SELinux	Access NFS	Comprehensive Review
Vim	Network Users	Access SMB	
cron and at			

DAY ONE

Introduction

Kickstart

Regular Expressions

Vim

cron and at

Introduction

- Welcome to Class
- Course Objectives and Structure
- Orientation to Classroom Network
- Internationalization

Welcome to Class

redhat.

Course Objectives and Structure

redhat.

DAY ONE	DAY TWO	DAY THREE	DAY FOUR
Introduction	Process Priorities	Partitions and Filesystems	Boot Troubleshooting
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Orientation to Classroom Network

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Internationalization

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DAY ONE

Introduction

Kickstart

Regular Expressions

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Chapter 1: Automating Installation with Kickstart

- Defining the Anaconda Kickstart System
- Deploying a New Virtual System with Kickstart

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Goal:

To automate the installation of Red Hat Enterprise Linux systems with Kickstart.

Objectives:

- Explain Kickstart concepts and architecture.
- Create a Kickstart configuration file.

Defining the Anaconda Kickstart System

Practice:
Kickstart File Syntax and Modification

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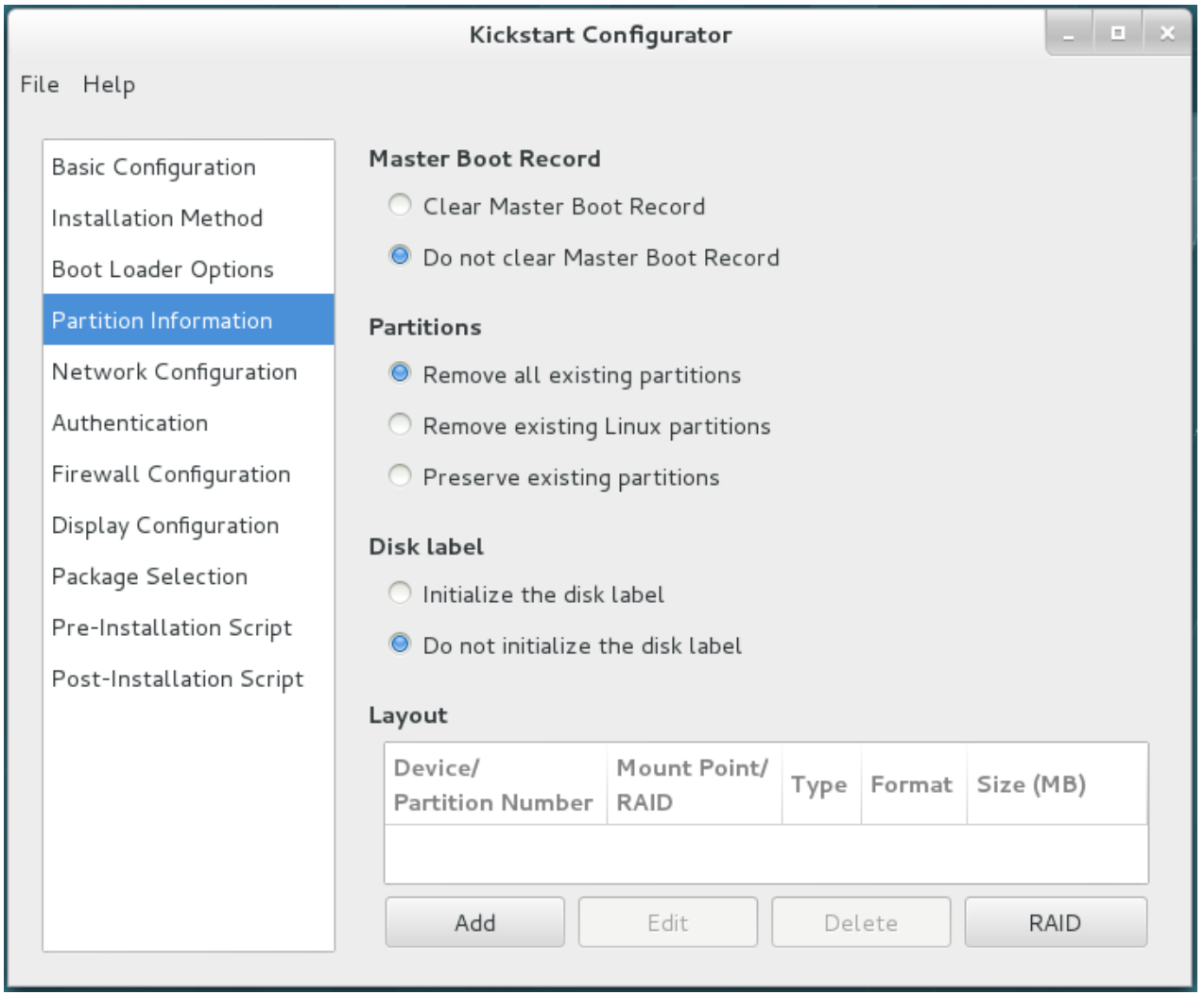
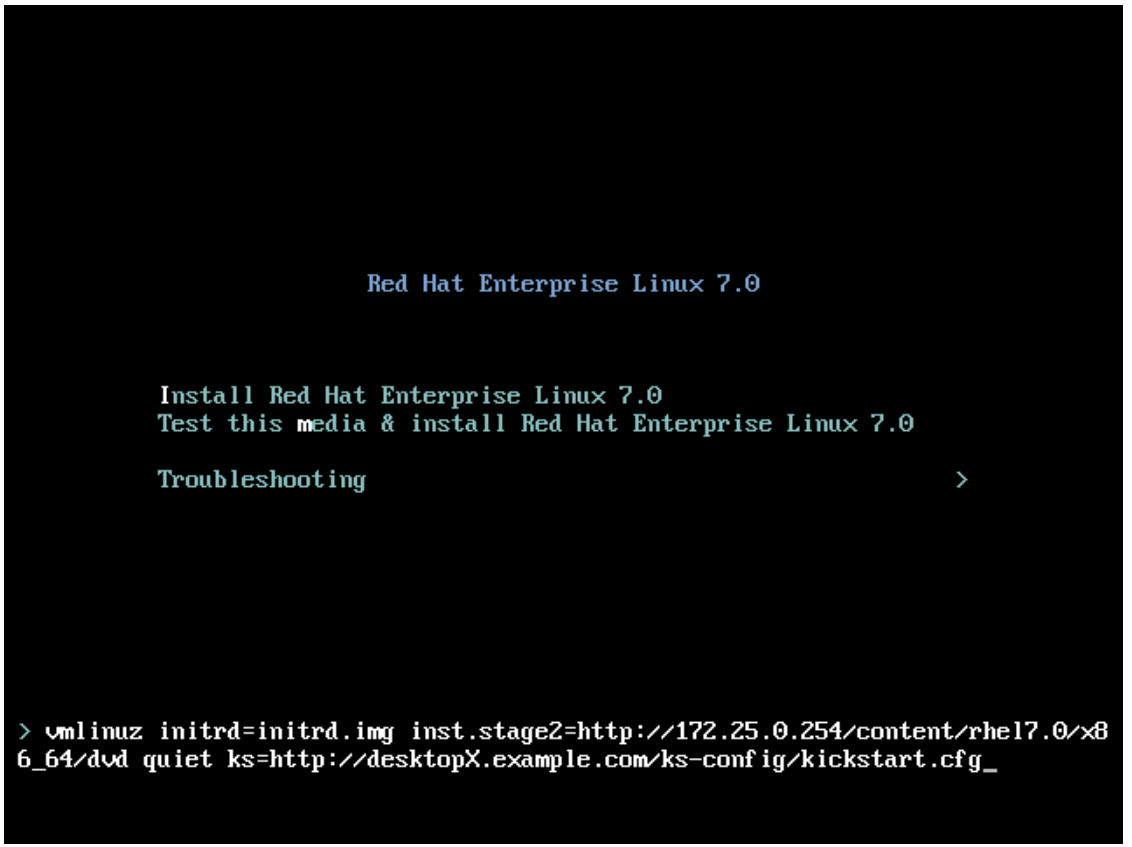
Deploying a New Virtual System with Kickstart

redhat.





Practice:
Installing a System Using Kickstart

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Chapter Test: Automating Installation with Kickstart

DAY ONE

Introduction

Kickstart

Regular Expressions

Vim

cron and at

Chapter 2: Using Regular Expressions with grep

- Regular Expression Fundamentals
- Matching Text with grep
- Using grep with Logs

redhat.

Goal:

To write regular expressions using grep to isolate or locate content in text files.

Objectives:

- Create regular expressions to match text patterns
- Use grep to locate content in files

Regular Expressions Fundamentals

redhat.

Quiz:
Match the Regular Expression

Matching Text with grep

Practice:
Using grep with Logs

redhat.

Lab:
Using Regular Expressions with grep

redhat.

DAY ONE

Introduction

Kickstart

Regular Expressions

Vim

cron and at

Chapter 3:
Creating and Editing Text Files with vim

- **The vim Text Editor**
- **Basic vim Workflow**
- **Editing with vim**

redhat.

Goal:

To introduce the vim text editor.

Objectives:

- Explain the three main modes of vim.
- Open, edit, and save text files.
- Use editor shortcuts.

The vim Text Editor

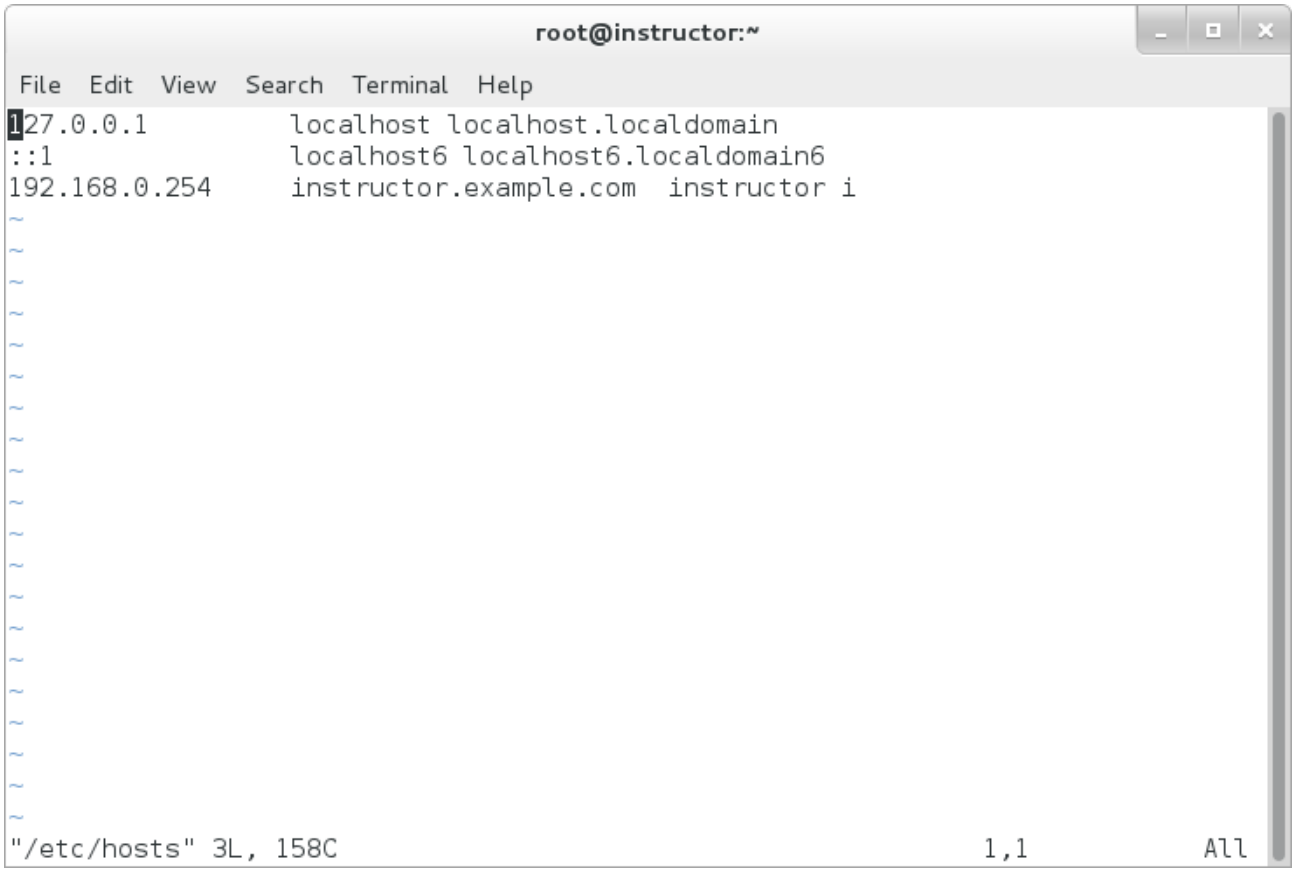
redhat.

Practice: vim Modes

redhat.

Basic vim Workflow

redhat.



Practice:
Basic vim Workflow

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Editing with vim

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Practice:
Edit a File with vim

redhat.

Lab:
Edit a System File with vim

redhat.

DAY ONE

Introduction

Kickstart

Regular Expressions

Vim

cron and at

Chapter 4: Scheduling Future Linux Tasks

- **Scheduling One-Time Tasks with at**
- **Scheduling Recurring Jobs with cron**
- **Scheduling System cron Jobs**
- **Managing Temporary Files**

redhat.

Goal:

To schedule tasks to automatically execute in the future.

Objectives:

- Schedule one-time tasks with at.
- Schedule recurring jobs with cron.
- Schedule recurring system jobs.

Scheduling One-Time Tasks with at

redhat.

Practice:
Scheduling One-Time Tasks with at

redhat.

Scheduling Recurring Jobs with cron

redhat.

Practice:
Scheduling Recurring Jobs with cron

redhat.

Practice:
Scheduling System cron Jobs

Managing Temporary Files

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Practice:
Managing Temporary Files

redhat.

Chapter Test:
Scheduling Future Linux Tasks

DAY TWO

Process Priorities

ACLs

SELinux

Network Users

Chapter 5:
Managing Priority of Linux Processes

- **Process Priorities and "nice" Concepts**
- **Using nice and renice to Influence Process Priority**

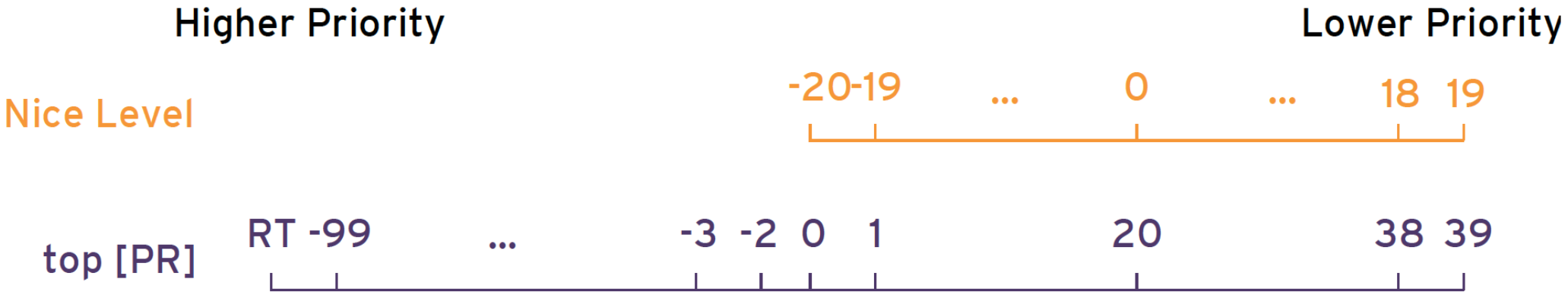
Goal:

To influence the relative priorities at which Linux processes run.

Objectives:

- Describe nice levels.
- Set nice levels on new and existing processes.

Process Priority and "nice" Concepts



Quiz:
Process Priority and "nice" Concepts

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Using nice and renice to Influence Process Priority

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Practice:
Discovering Process Priorities

redhat.

Lab:
Managing Priority of Linux Processes

redhat.

DAY TWO

Process Priorities

ACLs

SELinux

Network Users

Chapter 6:
Controlling Access to Files with Access Control Lists

- **POSIX Access Control Lists (ACLs)**
- **Securing Files with ACLs**

Goal:

To manage file security using POSIX access control lists (ACLs).

Objectives:

- Describe POSIX access control lists.
- Manage POSIX access control lists.

POSIX Access Control Lists (ACLs)

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Quiz:
Interpret ACLs

redhat.

Securing Files with ACLs

redhat.

Practice: Using ACLs to Grant and Limit Access

redhat.

Lab:
Controlling Access to Files with Access Control Lists (ACLs)

redhat.

DAY TWO

Process Priorities

ACLs

SELinux

Network Users

Chapter 7: Managing SELinux Security

- **Enabling and Monitoring SELinux**
- **Changing SELinux Modes**
- **Changing SELinux Contexts**
- **Changing SELinux Booleans**
- **Troubleshooting SELinux**

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Goal:

To manage the Security Enhanced Linux (SELinux) behavior of a system to keep it secure in case of a network service compromise.

Objectives:

- Explain the basics of SELinux permissions.
- Change SELinux modes with setenforce.
- Change file contexts with semanage and restorecon.
- Manage SELinux booleans with setsebool.
- Examine logs and use sealert to troubleshoot SELinux violations.

Enabling and Monitoring Security Enhanced Linux (SELinux)

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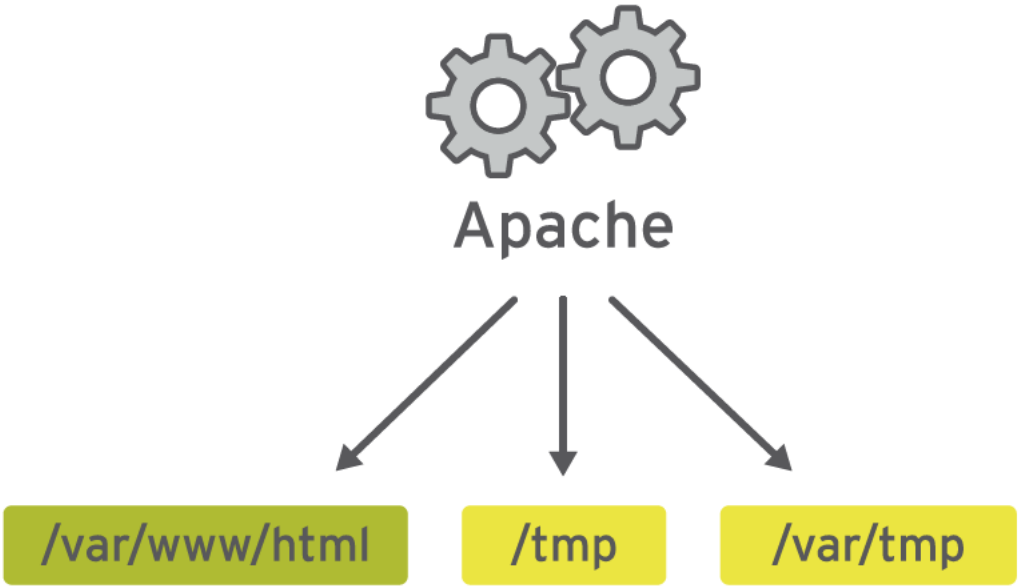

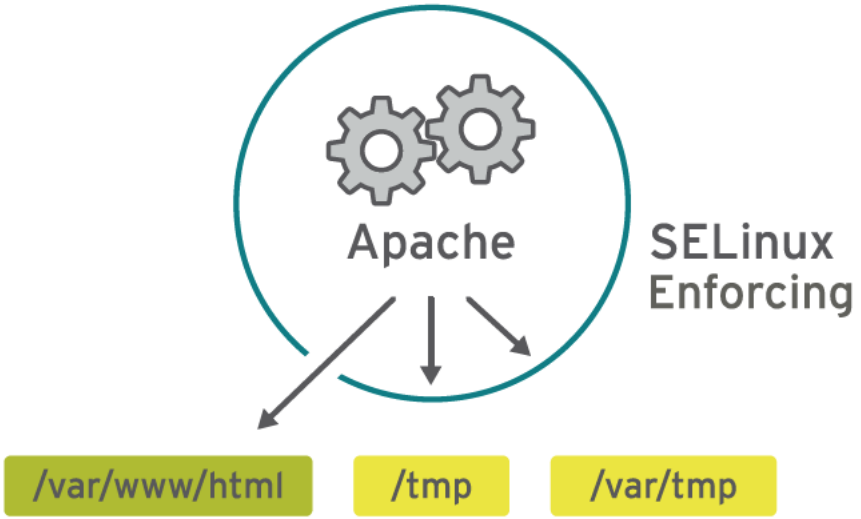

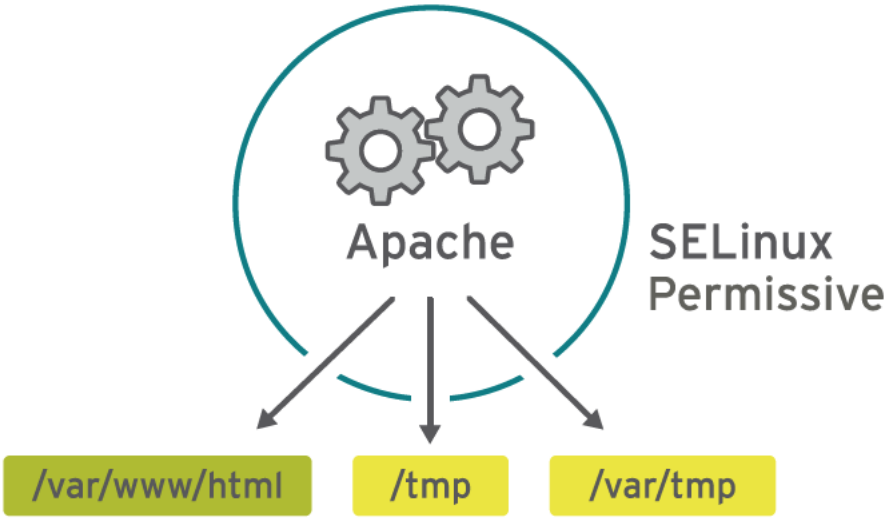

Quiz:
SELinux Concepts

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Changing SELinux Modes

Practice:
Changing SELinux Modes

Changing SELinux Contexts

Practice:
Changing SELinux Contexts

redhat.

Changing SELinux Booleans

Practice:
Changing SELinux Booleans

Troubleshooting SELinux

redhat.

Practice: Troubleshooting SELinux

redhat.

Lab:
Managing SELinux Security

redhat.

DAY TWO

Process Priorities

ACLs

SELinux

Network Users

Chapter 8:
Connecting to Network-defined Users and Groups

- **Using Identity Management Services**

Goal:

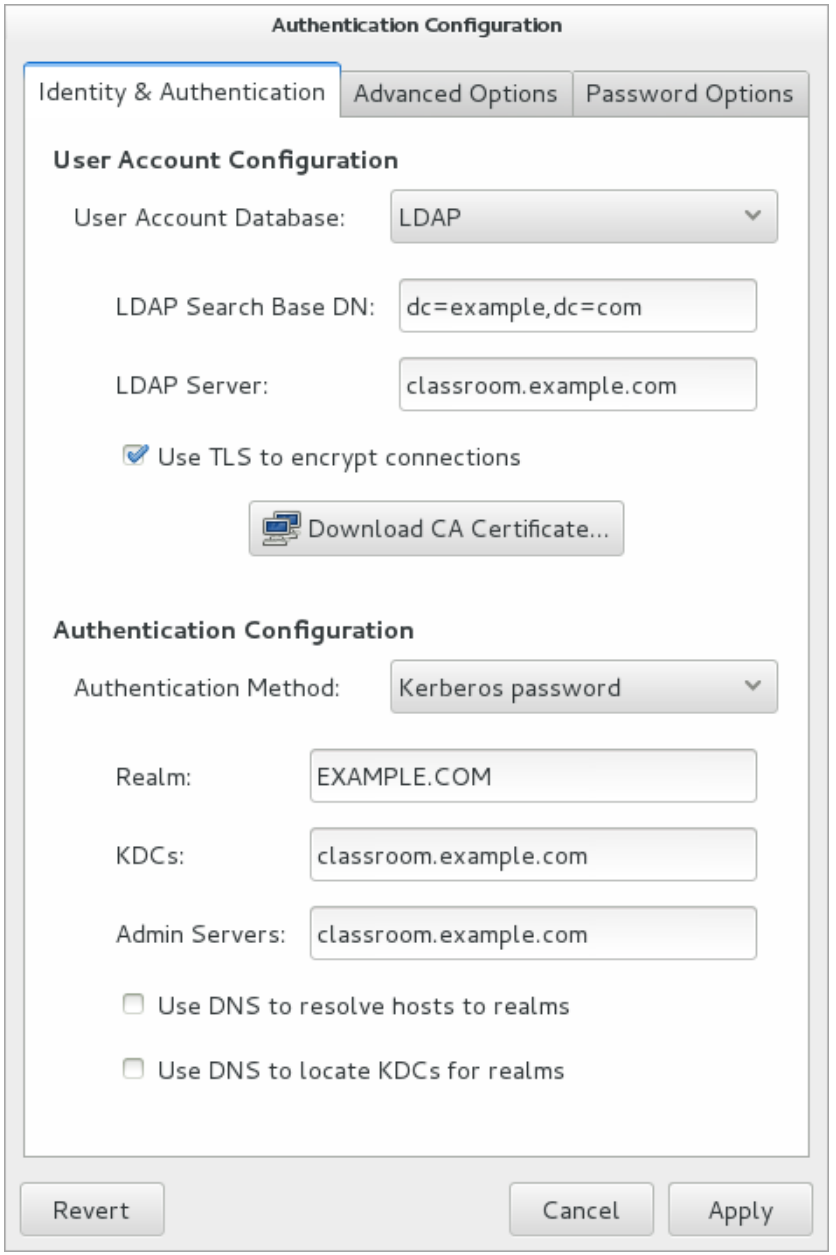
To configure systems to use central identity management services.

Objective:

- Use centralized identity management services.

Using Identity Management Services

redhat.



Practice: Connecting to a Central LDAP and Kerberos Server

redhat.

Lab:
Connecting to Network-defined Users and Groups

redhat.

DAY THREE

Partitions and Filesystems

Logical Volumes

Access NFS

Access SMB

Chapter 9:
Adding Disks, Partitions, and Filesystems to a Linux System

- **Adding Partitions, Filesystems, and Persistent Mounts**
- **Adding and Enabling Swap Space**

Goal:

To create and manage disks, partitions, and filesystems from the command line.

Objectives:

- Manage simple partitions and filesystems.
- Manage swap space.

Adding Partition, Filesystem, and Persistent Mount

redhat.

Practice: Adding Partition, Filesystem, Persistent Mount

Managing Swap Space

redhat.

Practice:
Adding and Enabling Swap Space

redhat.

Lab:
Adding Filesystem, Swap, and Persistent Mount

redhat.

DAY THREE

Partitions and Filesystems

Logical Volumes

Access NFS

Access SMB

Chapter 10:
Managing Logical Volume Management Storage

- **Logical Volume Management Concepts**
- **Managing Logical Volumes**
- **Extending Logical Volumes**

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Goal:

To manage logical volumes from the command line.

Objectives:

- Describe logical volume management components and concepts.
- Manage logical volumes.
- Extend logical volumes.

Logical Volume Management Concepts

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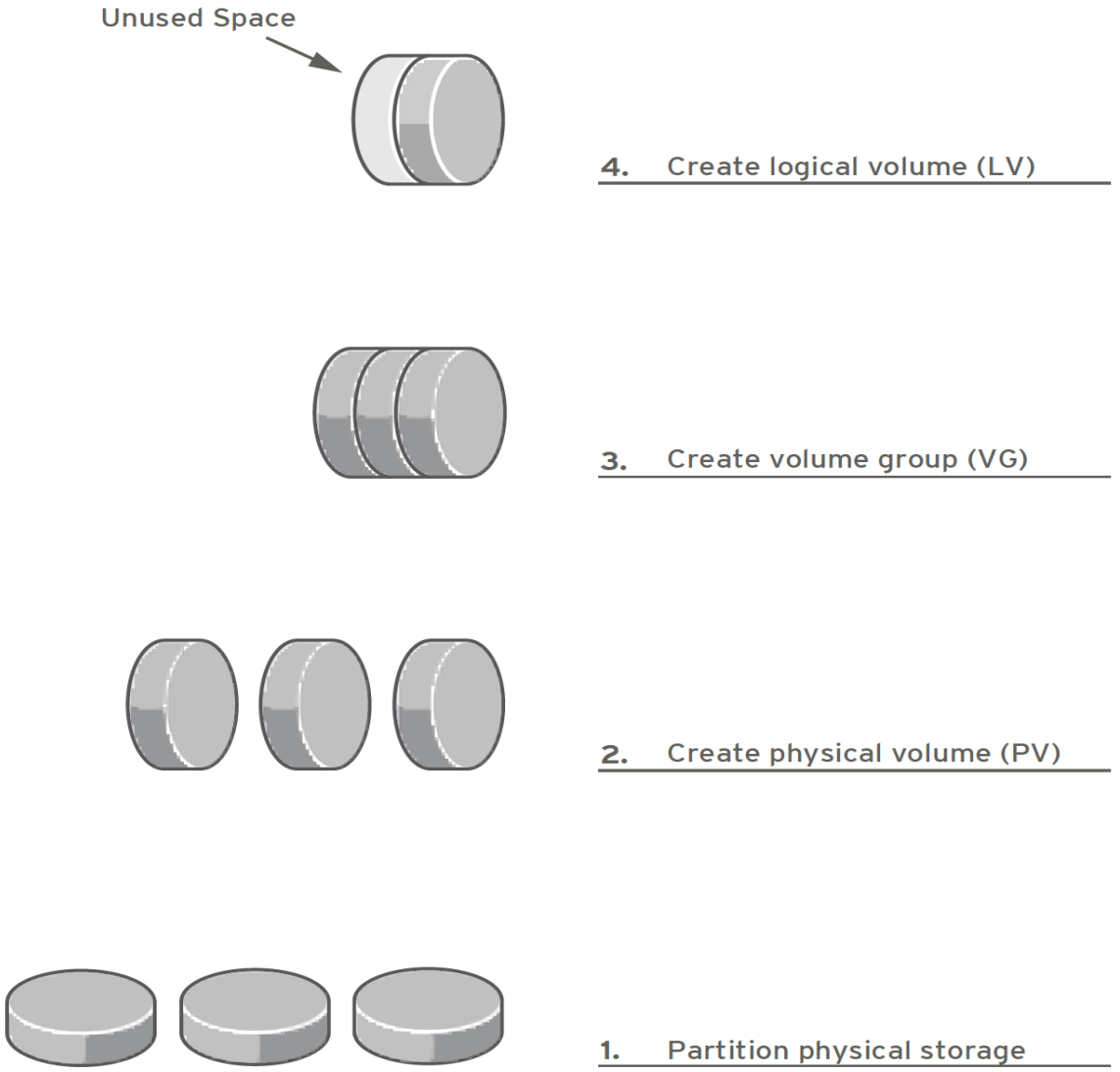

Quiz: Logical Volume Management Concepts

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Managing Logical Volumes

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Practice:
Adding a Logical Volume

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Extending Logical Volumes

redhat.

Practice:
Extending a Logical Volume

redhat.

Lab:
Managing Logical Volume Management (LVM) Storage

redhat.

DAY THREE

Partitions and Filesystems

Logical Volumes

Access NFS

Access SMB

Chapter 11:

Accessing Network Storage with Network File System (NFS)

- **Mounting Network Storage with NFS**
- **Automounting Network Storage with NFS**

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Goal:

To use autofs and the command line to mount and unmount network storage with NFS.

Objectives:

- Mount, access and unmount network storage with NFS
- Automount and access network storage with NFS

Mounting Network Storage with NFS

redhat.

Practice:
Mounting and Unmounting NFS

redhat.

Automounting Network Storage with NFS

Practice: Automounting NFS

redhat.

Lab:
Accessing Network Storage with Network File System (NFS)

redhat.

DAY THREE

Partitions and Filesystems

Logical Volumes

Access NFS

Access SMB

Chapter 12:
Accessing Network Storage with SMB

- **Accessing Network Storage with SMB**

Goal:

To use autofs and the command line to mount and unmount SMB file systems.

Objective:

- Mount, automount, and unmount SMB file systems.

Accessing Network Storage with SMB

redhat.

Practice:
Mounting a SMB File System

redhat.

Lab:
Accessing Network Storage with SMB

redhat.

DAY FOUR

Boot Troubleshooting

Firewalls

Comprehensive Review

Chapter 13:

Controlling and Troubleshooting the Red Hat Enterprise Linux Boot Process

- **The Red Hat Enterprise Linux Boot Process**
- **Repairing Common Boot Issues**
- **Repairing File System Issues at Boot**
- **Repairing Boot Loader Issues**

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Goal:

To troubleshoot the Red Hat Enterprise Linux boot process.

Objectives:

- Describe the Red Hat Enterprise Linux boot process.
- Repair common boot issues.
- Repair file system issues at boot.
- Repair bootloader problems.

The Red Hat Enterprise Linux Boot Process

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Practice:
Selecting a Boot Target

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Repairing Common Boot Issues

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Repairing Common Boot Issues

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Practice:
Resetting a Lost root Password

redhat.

Repairing File System Issues at Boot

redhat.

Practice:
Repairing Boot Problems

redhat.

Repairing Boot Loader Issues

Practice:
Repairing a Boot Loader Problem

redhat.

Lab:
Controlling and Troubleshooting the Red Hat Enterprise Linux Boot Process

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DAY FOUR

Boot Troubleshooting

Firewalls

Comprehensive Review

Chapter 14:
Limiting Network Communication with firewalld

- **Limiting Network Communication**

Goal:

To configure a basic firewall.

Objective:

- Configure a basic firewall using firewalld, firewallconfig, and firewall-cmd.

Limiting Network Communication

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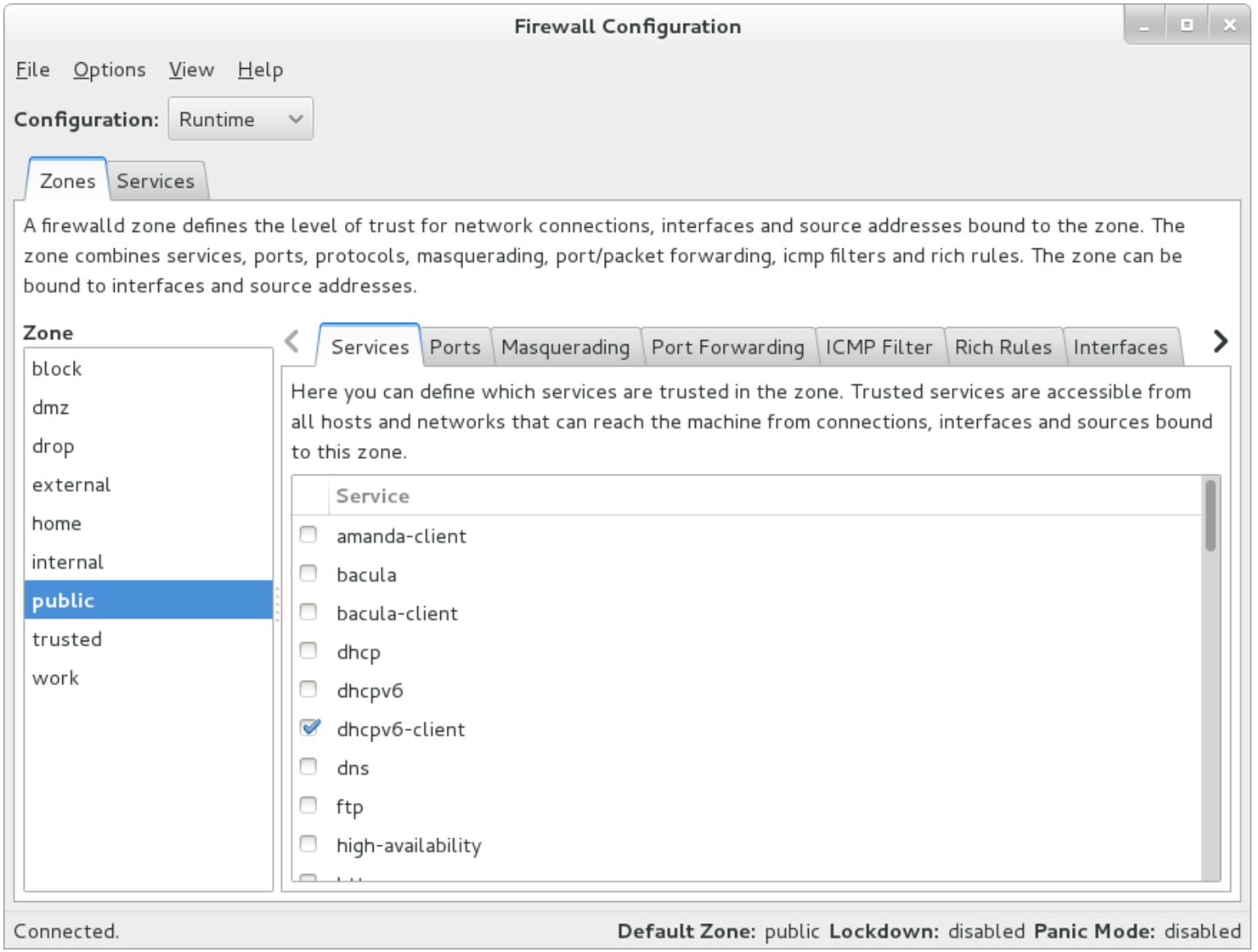

Practice:
Limiting Network Communication

Lab:
Limiting Network Communication

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DAY FOUR

Boot Troubleshooting

Firewalls

Comprehensive Review

Chapter 15:
Comprehensive Review

- **Red Hat System Administration II Comprehensive Review**

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Goal:

To practice and demonstrate knowledge and skills learned in Red Hat System Administration II.

Objective:

- Review course chapters to reinforce knowledge and skills.

Red Hat System Administration II
Comprehensive Review

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Comprehensive Review of System Administration II

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