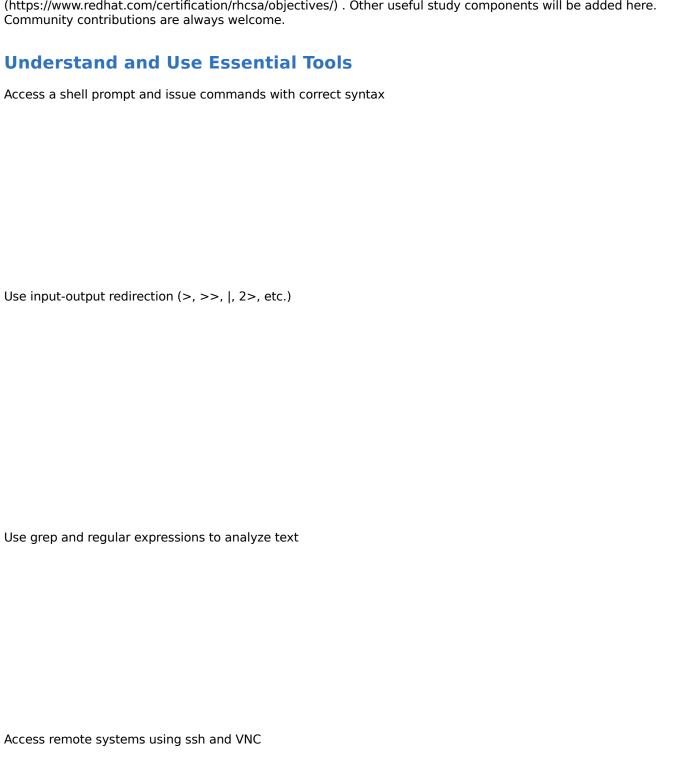# SysadminSG RHCSA Study Guide

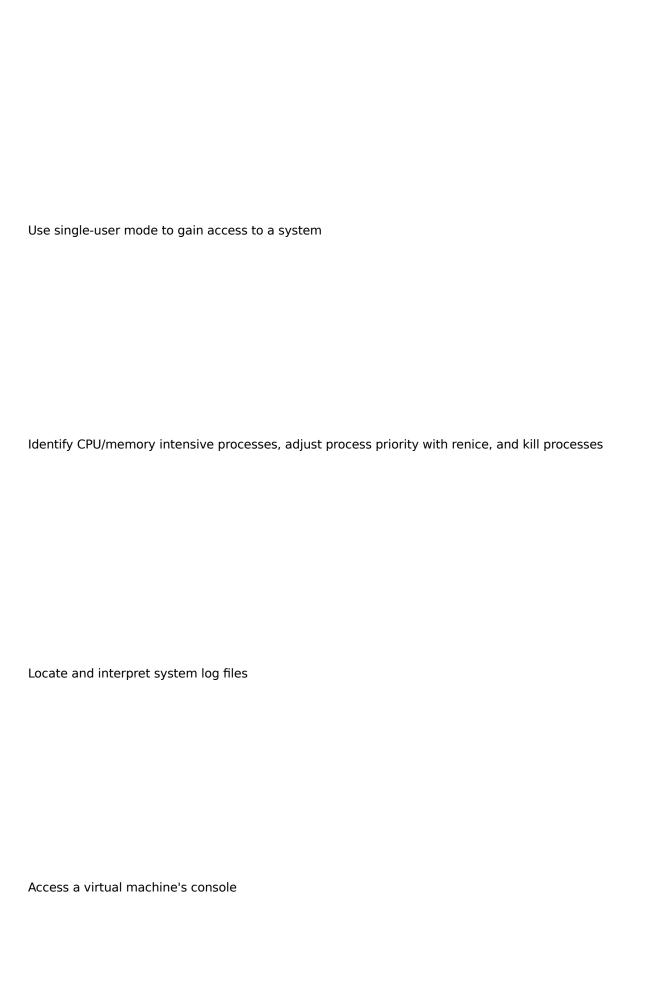This is the RHCSA Study Guide for the System Administration Study Group.

The study guide is intended to be printed by those who wish to study common tasks performed by many system administrators. This study guide is based upon the Red Hat Certified System Administrator Exam Objectives (https://www.redhat.com/certification/rhcsa/objectives/) . Other useful study components will be added here. Community contributions are always welcome.

Understand and Use Essential Tools

Access a shell prompt and issue commands with correct syntax

Use input-output redirection (>, >>, |, 2>, etc.)

Use grep and regular expressions to analyze text

Access remote systems using ssh and VNC

Log in and switch users in multi-user runlevels

Archive, compress, unpack and uncompress files using tar, star, gzip, and bzip2

Create and edit text files

Create, delete, copy and move files and directories

Create hard and soft links

List, set and change standard ugo/rwx permissions

Locate, read and use system documentation including man, info, and files in /usr/share/doc .

Operate Running Systems

Boot, reboot, and shut down a system normally

Boot systems into different runlevels manually

Use single-user mode to gain access to a system

Identify CPU/memory intensive processes, adjust process priority with renice, and kill processes

Locate and interpret system log files

Access a virtual machine's console

Start and stop virtual machines

Start, stop and check the status of network services

Configure Local Storage

List, create, delete and set partition type for primary, extended, and logical partitions

Create and remove physical volumes, assign physical volumes to volume groups, create and delete logical volumes

Create and configure LUKS-encrypted partitions and logical volumes to prompt for password and mount a decrypted file system at boot

Configure systems to mount file systems at boot by Universally Unique ID (UUID) or label

Add new partitions, logical volumes and swap to a system non-destructively

Create and Configure File Systems

Create, mount, unmount and use ext2, ext3 and ext4 file systems

Mount, unmount and use LUKS-encrypted file systems

Mount and unmount CIFS and NFS network file systems

Configure systems to mount ext4, LUKS-encrypted and network file systems automatically

Extend existing unencrypted ext4-formatted logical volumes

Create and configure set-GID directories for collaboration

Create and manage Access Control Lists (ACLs)

Diagnose and correct file permission problems

Deploy, Configure and Maintain Systems

Configure networking and hostname resolution statically or dynamically

Schedule tasks using cron

Configure systems to boot into a specific runlevel automatically

Install Red Hat Enterprise Linux automatically using Kickstart

Configure a physical machine to host virtual guests

Install Red Hat Enterprise Linux systems as virtual guests

Configure systems to launch virtual machines at boot

Configure network services to start automatically at boot

Configure a system to run a default configuration HTTP server

Configure a system to run a default configuration FTP server

Install and update software packages from a remote repository, or from the local filesystem

Update the kernel package appropriately to ensure a bootable system

Modify the system bootloader

Configure a system to run a default configuration NTP server and synchronize time using other NTP peers

Manage Users and Groups

Create, delete, and modify local user accounts

Change passwords and adjust password aging for local user accounts

Create, delete and modify local groups and group memberships

Configure a system to use an existing LDAP directory service for user and group information

Manage Security

Configure firewall settings using system-config-firewall or iptables

Set enforcing and permissive modes for SELinux

List and identify SELinux file and process context

Restore default file contexts

Use boolean settings to modify system SELinux settings

Diagnose and address routine SELinux policy violations

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