# Red Hat Enterprise Linux 7

# Red Hat Certified Systems Administrator

# Red Hat Certified Engineer

## Red Hat Certified Systems Administrator

- **Installing Red Hat Enterprise Linux Server**
  Install Red Hat Enterprise, Other Distributions like CentOS, Manual Installation

- **Essential Tools**
  Bash Shell- I/O Redirect & Pipes. File Editing, Shell Environment, Finding Help with man

- **Essential File Management Tools**
  File System Hierarchy. Managing Files, Hard Links & Soft Links

- **Working with Text Files**
  Using Common File Related Tools like head/tail, filter, cut, sort

- **Connecting to Red Hat Enterprise Linux 7**
  Local Consoles, Graphical Environment, Non-Graphical Environment. Authentication using SSH

- **User & Group Management**
  Types of Users, Managing User Accounts, Creating and Managing Group Accounts. Logging through an External Authentication Service

- **Configuring Permissions**
  Managing File Ownership, Basic Permissions & Advanced Permissions. Managing ACLs

- **Configuring Networking**
  Network Fundamentals, Managing Network Address & Interfaces, Validating Network Configurations. Configuring Network Configurations with nmtui & nmcli. Setting Hostnames & Name Resolution

- **Managing Processes**
  Introduction to Process Management. Using Command-Line Tools for Process Management.

- **Working with Virtual Machines**
  Understanding KVM Virtualization. Using KVM Virtual Machines.

- **Managing Software**
  Managing Software Packages with Yum, Repositories, Packages, Package Groups. Managing Software Packages with RPM.

- **Managing Partitions**
  Understanding MBR & GPT, Managing Partitions & File Systems. Mounting File Systems.

- **Managing LVM Logical Volumes**
  Understanding LVM, Creating LVM Logical Volumes & Resizing them.

- **Basic Kernel Management**
  Understanding the Roles of Linux Kernel. Working with Kernel Modules & Upgrading them

- **Configuring Basic Apache Server**
  Configuring Apache Server & creating Web Server Content. Understanding Apache Configuration Files & creating Apache Virtual Hosts.

- **Understanding, Managing & Troubleshooting Boot Procedure**
  Working with Systemd & GRUB (Grand Unified Boot Loader). Passing Kernel Boot Arguments. Using a Rescue Disk, Reinstalling GRUB, Fixing Initramfs, Recovering File System & Resetting Root Password.

- **Using Kickstart**
  Configuring Network Server as Installation Server. Setting up Services like TFTP & DHCP for PXE Boot. Creating a Kickstart File.

- **Managing SELinux**
  Understanding SELinux & Modes. Understanding Context Settings & Policy. Diagnosing & Addressing SELinux Policy Violations

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- **Configuring a Firewall**
  Understanding Linux Firewall Zones & Services. Working with Firewalld.

- **Configuring Remote Mounts & FTP**
  Mounting NFS Shares & SMB File Systems. Mounting Remote File Systems through fstab & Automount Feature. Configuring an FTP Server.

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- **Configuring External Authentication & Authorization**
  Understanding Remote Authentication & Kerberos Basics. Configuring LDAP Authentication with Kerberos.

- **System Performance Reporting**
  Understanding Top Performance Data. Use of iostat, vmstat & pidstat.

- **Configuring Advanced Log Features**
  Understanding rsyslogd Modules. Connecting journald to rsyslog. Configuring Remote Logging.

- **Configuring Routing & Advanced Networking**
  Configuring Aggregated Network Interfaces using Bonding & Teaming. Configuring IPv6 Addresses. Routing IP Traffic.

- **Advanced Firewall Configurations**
  Excluding IPtables Services, Creating Firewalld Services, Configuring Firewalld Rich Rules. Configuring Network Address Translation.

- **Advanced Apache Services**
  Apache Basics. Configuring TLS Security. Deploying CGI Applications. Configuring Private Directories.

- **Configuring DNS**
  Understanding DNS & Setting up a Cache-Only DNS Server. Troubleshooting DNS Issues.

- **Configuring MariaDB Database**
  MariaDB Base Configuration. MariaDB Backup & Restore.

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- **Configuring NFS**
  Setting up Basic NFSv4 Server. Configuring NFS Kerberos Authentication.

- **Configuring Samba File Services**
  Setting up SMB File Sharing. Securing Samba & Accessing SMB Shares.

- **Setting Up SMTP Servers**
  Understanding Email Basics. Configuring Postfix Parameters. Verifying a Working Mail Configuration.

- **Configuring SSH**
  Hardening the SSH Server. Using other sshd options. Configuring Key-Based Authentication with Passphrases. Configuring SSH Tunnels.

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