RHCE Certification lab Training

BILGINC IT Academy
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Duration: **5 Day**

Prepare for the Red Hat Certified Engineer exam (EX300)

The RHCE® Certification lab (RH299) is a facilitated lab environment for students to work at their own pace through a hands-on review prior to taking the Red Hat Certified Engineer (RHCE) exam (EX300).

Students attending this lab should have already completed their classroom training and simply be preparing to take or retake the exam. The delivery is focused primarily on lab time.

During the 4-day lab, students will work on their own through the complete set of labs from both the RHCSA (Red Hat Certified System Administrator) Rapid Track (RH199) and Red Hat System Administration III (RH254). The RHCE Certification Lab includes a few lectures designed to review key technologies such as systemd, firewalld, and IPv6. For the classroom and virtual classroom versions of this lab, a facilitator will be available throughout the week to assist students as they work through the exercises.

Who Should Attend

- RHCEs on Red Hat Enterprise Linux 6 or earlier who wish to recertify on Red Hat Enterprise Linux 7
- Students who previously attempted the RHCE exam, did not pass, and wish to retake the exam
- Students who have completed the RHCE track courses (Red Hat System Administration I (RH124), Red Hat System Administration II (RH134), and Red Hat System Administration III (RH254) or equivalent) and would like additional hands-on practice prior to taking the RHCE exam

What You Will Learn

- Managing and troubleshooting systemd services during the boot process
- Network configuration and basic troubleshooting
- Managing local storage, creating and using file systems
- Firewall management with firewalld
- Automating installation of Red Hat Enterprise Linux® using kickstart
- Manage SELinux settings
- Using NFS and Samba shared filesystems
- iSCSI initiator and target configuration
- Domain Name System (DNS) troubleshooting and caching name server
- Providing Network File System (NFS) and Server Message Block (SMB) file servers
- Apache HTTPD web server management
- MariaDB SQL database configuration
- Postfix Simple Mail Transfer Protocol (SMTP) nullclient for servers
- Bash scripting for automation

Training Outline

Local and remote logins
Review methods for accessing the system and engaging Red Hat Support.

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File system navigation
: Copy, move, create, delete, link, and organize files while working from the Bash shell prompt.

Users and groups
: Manage Linux users and groups and administer local password policies.

File permissions
: Control access to files and directories using permissions and access control lists (ACLs).

SELinux permissions
: Manage the SELinux behavior of a system to keep it secure in case of a network service compromise.

Process management
: Evaluate and control processes running on a Red Hat Enterprise Linux system.

Updating software packages
: Download, install, update, and manage software packages from Red Hat and yum package repositories.

Creating and mounting file systems
: Create and manage disks, partitions, and filesystems from the command line.

Service management and boot troubleshooting
: Control and monitor system daemons and troubleshoot the Red Hat Enterprise Linux boot process.

Network configuration
: Configure basic IPv4 networking on Red Hat Enterprise Linux systems.

System logging and ntp
: Locate and accurately interpret relevant system log files for troubleshooting purposes.

Logical volume management
: Create and manage logical volumes from the command line.

Scheduled processes
: Schedule tasks to automatically execute in the future.

Mounting network file systems
: Use autofs and the command line to mount and unmount network storage with NFS and SMB.

Firewall configuration
: Configure a basic firewall.

Virtualization and kickstart
: Automate the installation of Red Hat Enterprise Linux on virtual machines with kernel-based virtual machine (KVM) and libvirt.

Managing IPv6 networking
: Configure and troubleshoot basic IPv6 networking on Red Hat Enterprise Linux systems.

Configuring link aggregation and bridging
: Configure and troubleshoot advanced network interface functionality including bonding, teaming, and local software bridges.

Controlling network port security
: Permit and reject access to network services using advanced SELinux and firewalld filtering techniques.

Managing DNS for Servers
: Set and verify correct DNS records for systems and configure secure-caching DNS.

Configuring E-mail Delivery
: Relay all e-mail sent by the system to a SMTP gateway for central delivery.

Providing block-based storage
: Provide and use networked iSCSI block devices as remote disks.

Providing file-based storage
: Provide NFS exports and SMB file shares to specific systems and users.

Configuring MariaDB databases
: Provide a MariaDB SQL database for use by programs and database administrators.

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Providing Apache HTTPD Web Service
- Configure Apache HTTPD to provide Transport Layer Security (TLS)-enabled websites and virtual hosts.

Writing Bash scripts
- Write simple shell scripts using Bash.

Bash conditionals and control structures
- Use Bash conditionals and other control structures to write more sophisticated shell commands and scripts.

Configuring the shell environment
- Customize Bash startup and use environment variables, Bash aliases, and Bash functions.