RedHat System Administration III   2023-2024 Catalog

[ARCHIVED CATALOG]

SVAD 224 - RedHat System Administration III

PREREQUISITES: SVAD 134 - RedHat System Administration II.
PROGRAM: Cloud Technologies
CREDIT HOURS MIN: 3
LECTURE HOURS MIN: 2
LAB HOURS MIN: 2
DATE OF LAST REVISION: Fall, 2017

This course is specifically designed for students who have completed Red Hat System Administration II. Red Hat System Administration III focuses on the key tasks needed to become an Enterprise level Linux Administrator. The course is focused on deploying and managing network servers running caching Domain Name Service (DNS), MariaDB, Apache HTTPD, Postfix SMTP null clients, network file sharing with Network File System (NFS) and Server Message Block (SMB), iSCSI initiators and targets, advanced networking and firewall configurations, and the use of Bash shell scripting to help automate, configure, and troubleshoot the system. Through lectures and hands-on labs, students will be exposed to all competencies covered by the Red Hat Certified Engineer (RHCE) exam (EX300).

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Review how to manage services and the boot-up process using systemctl.
2. Configure and troubleshoot basic IPv6 networking on Red Hat Enterprise Linux systems.
3. Configure and troubleshoot advanced network interface functionality including bonding, teaming, and local software bridges.
4. Permit and reject access to network services using advanced SELinux and firewalld filtering techniques.
5. Set and verify correct DNS records for systems and configure secure DNS caching.
6. Relay all email sent by the system to an SMTP gateway for central delivery.
7. Provide and use networked iSCSI block devices as remote disks.
8. Provide NFS exports and SMB file shares to specific systems and users.
9. Provide a MariaDB SQL database for use by programs and database administrators.
10. Configure Apache HTTPD to provide Transport Layer Security (TLS)-enabled websites and virtual hosts.
11. Write simple shell scripts using Bash.
12. Use Bash conditionals and other control structures to write more sophisticated shell commands and scripts.
13. Customize Bash startup and use environment variables, Bash aliases, and Bash functions.
14. Practice and demonstrate knowledge and skills learned in Red Hat System Administration III.

COURSE CONTENT: Topical areas of study include -

- Control services and daemons
- Manage IPv6 networking
- Configure link aggregation and bridging
- Control network port security
- Manage DNS for servers
- Configure email delivery
- Provide block-based storage
- Provide file-based storage

- Configure MariaDB databases
- Provide Apache HTTPD web service
- Write Bash scripts
- Bash conditionals and control structures
- Configure the shell environment
- Comprehensive review

[Course Addendum - Syllabus (Click to expand)](#)