



Nehra Classes

Igniting The Minds

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Linux System Administration (RHCSA) on CentOS 9

1. 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 analyse text
- Access remote systems using SSH
- Log in and switch users in multiuser targets
- Archive, compress, unpack, and un-compress 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 & files in /usr/share/doc

2. Create simple shell scripts:

- Conditionally execute code (use of: if, test, [], etc.)
- Use Looping constructs (for, etc.) to process file, command line input
- Process script inputs (\$1, \$2, etc.)
- Processing output of shell commands within a script

3. Operate running systems:

- Boot, reboot, and shut down a system normally
- Boot systems into different targets manually
- Interrupt the boot process in order to gain access to a system
- Identify CPU/memory intensive processes and kill processes
- Adjust process scheduling
- Manage tuning profiles
- Locate and interpret system log files and journals
- Preserve system journals
- Start, stop, and check the status of network services
- Securely transfer files between systems

4. Configure local storage:

- List, create, delete partitions on MBR and GPT disks
- Create and remove physical volumes
- Assign physical volumes to volume groups
- Create and delete logical volumes
- Configure systems to mount file systems at boot by universally unique ID (UUID) or label
- Add new partitions and logical volumes, and swap to a system non-destructively

5. Create and configure file systems:

- Create, mount, unmount, and use vfat, ext4, and xfs file systems
- Mount and unmount network file systems using NFS
- Configure autofs
- Extend existing logical volumes
- Create and configure set-GID directories for collaboration
- Diagnose and correct file permission problems

6. Deploy, configure, and maintain systems:

- Schedule tasks using at and cron
- Start and stop services and configure services to start automatically at boot
- Configure systems to boot into a specific target automatically
- Configure time service clients
- Install & update software packages from a remote repository or from the local ISO image
- Modify the system bootloader

7. Manage basic networking:

- Configure IPv4 and IPv6 addresses
- Configure hostname resolution
- Configure network services to start automatically at boot
- Restrict network access using firewall-cmd/firewall

8. 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 superuser access

9. Manage security:

- Configure firewall settings using firewall-cmd/firewalld
- Manage default file permissions

- Configure key-based authentication for SSH
- Set enforcing and permissive modes for SELinux
- List and identify SELinux file and process context
- Restore default file contexts
- Manage SELinux port labels
- Use boolean settings to modify system SELinux settings
- Diagnose and address routine SELinux policy violations

10. Manage containers:

- Find and retrieve container images from a remote registry
- Inspect container images
- Perform container management using commands such as podman and skopeo
- Build a container from a Container file
- Perform basic container management such as running, starting, stopping, and listing running containers
- Run a service inside a container
- Configure a container to start automatically as a systemd service
- Attach persistent storage to a container

As with all certification exams, configurations must persist after reboot without intervention.