

# LINUX FOUNDATION CERTIFIED SYSTEM ADMINISTRATOR (LFCS)



## Essential Commands - 25%

- Log into graphical & text mode consoles
- Search for files
- Evaluate & compare the basic file system features & options
- Compare, create & edit text files
- Compare binary files
- Use input-output redirection (e.g. >, >>, |, 2>)
- Analyze text using basic regular expressions
- Archive, backup, compress, unpack, & uncompress files
- Create, delete, copy, & move files & directories
- Create hard & soft links
- List, set, & change standard file permissions
- Read & use system documentation
- Manage access to the root account

## Operation of Running Systems - 20%

- Boot, reboot, & shut down a system safely
- Boot systems into different runlevels manually
- Install, configure & troubleshoot the bootloader
- Change the priority of a process
- Identify resource utilization by process
- Locate & analyze system log files
- Schedule tasks to run at a set date & time
- Verify completion of scheduled jobs

- Update software to provide required functionality & security
- Verify the integrity & availability of resources
- Verify the integrity & availability of key processes
- Change kernel runtime parameters, persistent & non-persistent
- Use scripting to automate system
- maintenance tasks
- Manage the startup process & services
- List & identify SELinux/AppArmor file &
- process contexts
- Configure & modify SELinux/AppArmor policies
- Install software from source

## User and Group Management - 15%

- Create, delete, & modify local user accounts
- Create, delete, & modify local groups & group
- memberships
- Manage system-wide environment profiles
- Manage template user environment
- Configure user resource limits
- Manage user processes
- Configure PAM

## Networking - 15%

- Configure networking & hostname resolution statically or dynamically
- Configure network services to start automatically at boot
- Implement packet filtering
- Configure firewall settings
- Start, stop, & check the status of network services

- Statically route IP traffic
- Dynamically route IP traffic
- Synchronize time using other network peers

## Service Configuration - 10%

- Configure a basic DNS server
- Maintain a DNS zone
- Configure an FTP server
- Configure anonymous-only download on FTP servers
- Provide/configure network shares via NFS
- Provide/configure network shares via CIFS
- Configure email aliases
- Configure SSH servers & clients
- Configure SSH-based remote access using public/private key pairs
- Restrict access to the HTTP proxy server
- Configure an IMAP & IMAPS service
- Query & modify the behavior of system services at various run levels
- Configure an HTTP server
- Configure HTTP server log files
- Restrict access to a web page
- Diagnose routine SELinux/AppArmor policy violations
- Configure database server

## Virtualization - 5%

- Configure a hypervisor to host virtual guests
- Access a VM console
- Configure systems to launch virtual machines at boot
- Evaluate memory usage of virtual machines

- Resize RAM or storage of VMs

## Storage Management - 10%

- List, create, delete, & modify storage partitions
- Create, modify & delete Logical Volumes
- Extend existing Logical Volumes & filesystems
- Create & configure encrypted partitions
- Configure systems to mount file systems at or during boot
- Configure & manage swap space
- Add new partitions, & logical volumes
- Assemble partitions as RAID devices
- Configure systems to mount standard, encrypted, & network file systems on demand
- Create & manage filesystem Access Control Lists (ACLs)
- Diagnose & correct file permission problems
- Setup user & group disk quotas for filesystems