LFCS Study Guide

This study guide is designed to help Candidates prepare for the Linux Foundation Certified System Administrator (LFCS) exam. The guide does not include answers.

The guide is not meant to be inclusive of all exam topics, but rather to encourage further study and practice. The sample tasks provided will not appear on the LFCS exam.

To familiarize yourself with the format and types of tasks candidates are requested to perform, we recommend you attempt these sample tasks on a Linux CLI system, using a distribution supported by the exam. Please check the FAQ or Candidate Handbook for distributions currently supported by the exam .

Domain	Sample Task
Essential Commands	Open the file under `/home/student/textreferences/editme.txt` and complete the following tasks: 1. Move line `7777` to line `1`. 2. Remove line `7000`. 3. Replace every occurrence of the word `Earth` shown with an uppercase E, with the word `Globe`. 4. Add a new line at the very end of the document that contains `Auctores Varii`.
Operation of Running System	Create a bash shell script named `certscript.sh` under `/home/student/apps/`. ● Make sure the script can be invoked as `./certscript.sh`. ● The first line of output from the script should consist of the name of the user who invoked it. ● The second line of output should contain the IP address of the default gateway.
Operation of Running System	Install the `tmux` package on your system.
Operation of Running System	Alter the init boot sequence so that the `rc.local` or `boot.local` script (depending on the distribution that you have selected) is executed at boot time.

Operation of Running System	Create a cron job that kills all processes named `scan_filesystem` which is owned by `root`, every minute.
User & Group Management	Linux administrators are responsible for the creation, deletion, and the modification of groups, as well as the group membership. Complete the following tasks to demonstrate your ability to create and manage groups and group membership: 1. Create the `computestream` group. 2. Create a `computestream` folder in `/exam/`. 3. Make the computestream group the owner of the `/exam/computestream` folder.
User & Group Management	Create a `candidate` user account with the password `cert456`. Modify the sudo configuration to let the `candidate` account access root privileges with no password prompt.
User & Group Management	Configure the system so that an empty `NEWS` file is automatically created in the home directory of any new user.
User & Group Management	Create a group called `students`.
User & Group Management	Create a new user account with the following attributes: ● Username is `harry`. ● Password is `magic`. ● This user's home directory is defined as `/home/school/harry/`. ● This new user is a member of the existing `students` group. ● The `/home/school/harry/binaries/` directory is part of the `PATH` variable.
User & Group Management	Create a user account with username `sysadmin` with the following attributes: ● Use a password of `science`. ● This user's home directory is defined as `/sysadmin/`. ● `sysadmin` has sudo privileges and will not be prompted for a password when using the sudo command. ● The default shell for this user is `zsh`.
User & Group Management	Ensure that all users can invoke the `last` command and access a list of users who previously logged in.
User & Group Management	Correct the `projectadmin` user account so that logins are possible using the password `_onetime43_`. Set the home

	directory to `/home/projectadmin`.
User & Group Management	Alter the `devel` user account so that it can log into the system with a working `bash` shell environment.
Networking	Find the name of the service which uses TCP port `2605`, as documented in `/etc/services`, and write the service name to the file `/home/student/port-2605.txt`. Find all of the ports used for TCP services `IMAP3` and `IMAPS`, again as documented in `/etc/services`, and write those port numbers to the file `/home/student/imap-ports.txt`.
Storage Management	The following tasks may be achieved using the user `student`'s sudo privileges: 1. Temporarily mount the filesystem available on `/dev/xvdf2` under `/mnt/backup/`. 2. Decompress and unarchive the `/mnt/backup/backup-primary.tar.bz2` archive into `/opt/`. This should result in a new directory (created from the archive itself) named `/opt/proddata/`.
Storage Management	Configure the swap partition `/dev/xvdi1` so that it does not* become attached automatically at boot time.
Storage Management	Configure the system so that the existing filesystem that corresponds to `/staging` gets persistently mounted in read-only mode.
Essential Commands	Working with archives and compressed files is an integral part of the System Administrator's job. Perform the following tasks to demonstrate your ability to work with archives and compressed files: 1. Extract all files from archive file `/opt/SAMPLE001.zip` into target directory `/opt/SAMPLE001` 2. Create a tar archive file `/opt/SAMPLE0001.tar` containing all files in the directory `/opt/SAMPLE001` 3. Compress the tar archive file `/opt/SAMPLE0001.tar` using the `bzip2` compression algorithm 4. Compress the tar archive file `/opt/SAMPLE0001.tar` using the `xz` compression algorithm Make sure that the uncompressed archive file `/opt/SAMPLE0001.tar` is not removed after creating the compressed versions of the archive file!

Essential Commands	A data directory is not used anymore and is about to be archived. You have been asked to identify and remove some files, before archiving takes place. Perform the following tasks to demonstrate your ability to search for files given various criteria: 1. Find all executable files in the directory `/srv/SAMPLE002` and remove them 2. Find all files in the directory `/srv/SAMPLE002`, which have not been accessed during the last month and remove them 3. Find all empty directories in the directory `/srv/SAMPLE002` and remove them 4. Find all files in the directory `/srv/SAMPLE002` with a file extension of `.tar`. Write a list of matching filenames, one per line, to the file `/opt/SAMPLE002/toBeCompressed.txt`, which has already been created. Ensure that you specify a relative path to each file, using `/srv/SAMPLE001` as the base directory for the relative path