LAB

MANAGING FILES FROM THE COMMAND LINE

In this review, you will manage files, redirect a specific set of lines from a text file to another file and edit the text files.

OUTCOMES

You should be able to:

- Manage files from the command line.
- Display a certain number of lines from text files and redirect the output to another file.
- Edit text files.

BEFORE YOU BEGIN

Copy any files or work you wish to keep to other systems before resetting. Reset the `workstation`, `servera`, and `serverb` systems now. Wait until the `workstation`, `servera`, and `serverb` systems are started.

Log in to `workstation` as `student` using `student` as the password.

On `workstation`, run **`lab rhcsa-rh124-review1 start`** to start the comprehensive review. This script creates the necessary files to set up the environment correctly.

```
[student@workstation ~]$ lab rhcsa-rh124-review1 start
```

INSTRUCTIONS

Accomplish the following tasks on `serverb` to complete the exercise.

- Create a new directory called **`/home/student/grading`**.
- Create three empty files in the **`/home/student/grading`** directory named **`grade1`**, **`grade2`**, and **`grade3`**.
- Capture the first five lines of the **`/home/student/bin/manage-files`** file in the **`/home/student/grading/manage-files.txt`** file.
- Append the last three lines of **`/home/student/bin/manage-files`** to the file **`/home/student/grading/manage-files.txt`**. You must not overwrite any text already in the file **`/home/student/grading/manage-files.txt`**.
- Copy **`/home/student/grading/manage-files.txt`** to **`/home/student/grading/manage-files-copy.txt`**.
- Edit the file **`/home/student/grading/manage-files-copy.txt`** so that there should be two sequential lines of text reading **`Test JJ`**.
- Edit the file **`/home/student/grading/manage-files-copy.txt`** so that the **`Test HH`** line of text must not exist in the file.

- Edit the file **/home/student/grading/manage-files-copy.txt** so that the line **A new line** should exist between the line reading **Test BB** and the line reading **Test CC**.
- Create a hard link named **/home/student/hardlink** to the file **/home/student/grading/grade1**. You will need to do this after creating the empty file **/home/student/grading/grade1** as specified above.
- Create a soft link named **/home/student/softlink** to the file **/home/student/grading/grade2**.
- Save the output of a command that lists the contents of the **/boot** directory to the file **/home/student/grading/longlisting.txt**. The output should be a "long listing" that includes file permissions, owner and group owner, size, and modification date of each file.

Evaluation

On `workstation`, run the **lab rhcsa-rh124-review1 grade** command to confirm success of this exercise.

```
[student@workstation ~]$ lab rhcsa-rh124-review1 grade
```

Finish

On `workstation`, run **lab rhcsa-rh124-review1 finish** to complete the comprehensive review. This script deletes the files and directories created during the start of the comprehensive review and ensures that the environment on `serverb` is clean.

```
[student@workstation ~]$ lab rhcsa-rh124-review1 finish
```

This concludes the comprehensive review.

LAB

MANAGING USERS AND GROUPS, PERMISSIONS AND PROCESSES

In this review, you will manage user and group accounts, set permissions on files and directories, and manage processes.

OUTCOMES

You should be able to:

- Manage users and groups.
- Set permissions on files and directories.
- Remove processes that are consuming too much CPU.

BEFORE YOU BEGIN

Log in to `workstation` as `student` using `student` as the password.

On `workstation`, run **`lab rhcsa-rh124-review2 start`** to start the comprehensive review. This script runs a process that consumes the maximum CPU resources and creates the necessary files to set up the environment correctly.

```
[student@workstation ~]$ lab rhcsa-rh124-review2 start
```

INSTRUCTIONS

Accomplish the following tasks on `serverb` to complete the exercise.

- Terminate the process that is currently using the most CPU time.
- Create a new group called `database` that has the GID **`50000`**.
- Create a new user called `dbuser1` that uses the group `database` as one of its secondary groups. The initial password of `dbuser1` should be set to `redhat`. Configure the user `dbuser1` to force a password change on its first login. The user `dbuser1` should be able to change its password after **`10`** days since the day of the password change. The password of `dbuser1` should expire in **`30`** days since the last day of the password change.
- Configure the user `dbuser1` to use **`sudo`** to run any command as the superuser.
- Configure the user `dbuser1` to have a default umask of **`007`**.
- The permissions on **`/home/student/grading/review2`** should allow the group members of `database` and the user `student` to access the directory and create contents in it. All other users should have read and execute permissions on the directory. Also, ensure that users are only allowed to delete files they own from **`/home/student/grading/review2`** and not files belonging to others.

Evaluation

On `workstation`, run the **`lab rhcsa-rh124-review2 grade`** command to confirm success of this exercise.

```
[student@workstation ~]$ lab rhcsa-rh124-review2 grade
```

Finish

On `workstation`, run **`lab rhcsa-rh124-review2 finish`** to complete the comprehensive review. This script terminates the process and deletes the files and directories created during the start of the comprehensive review and ensures that the environment on `serverb` is clean.

```
[student@workstation ~]$ lab rhcsa-rh124-review2 finish
```

This concludes the comprehensive review.

LAB

CONFIGURING AND MANAGING A SERVER

In this review, you will configure, secure, and use SSH service to access remote machine, configure `rsyslog` service, archive local files, transfer local files to remote machine, and manage packages using **`yum`**.

OUTCOMES

You should be able to:

- Create a new SSH key pair.
- Disable SSH logins as `root` user.
- Disable SSH logins using password.
- Update the time zone of a server.
- Install packages and package modules using **`yum`**.
- Archive local files for backup.
- Transfer local files to remote machine.

BEFORE YOU BEGIN

Log in to `workstation` as `student` using `student` as the password.

On `workstation`, run **`lab rhcsa-rh124-review3 start`** to start the comprehensive review. This script creates the necessary files to set up the environment correctly.

```
[student@workstation ~]$ lab rhcsa-rh124-review3 start
```

INSTRUCTIONS

Accomplish the following tasks on `serverb` to complete the exercise.

- Generate SSH keys for the user `student` on `serverb`. Do not protect the private key with a passphrase.
- On `servera`, configure the user `student` to accept logins authenticated by the SSH key pair you created for the user `student` on `serverb`. The user `student` on `serverb` should be able to log in to `servera` using SSH without entering a password.
- On `serverb`, configure the `sshd` service to prevent users from logging in as `root` via SSH.
- On `serverb`, configure the `sshd` service to prevent users from using their passwords to log in. Users should still be able to authenticate logins using an SSH key pair.
- Create a tar archive named **`/tmp/log.tar`** containing the contents of **`/var/log`** on `serverb`. Remotely transfer the tar archive to **`/tmp`** directory on `servera`, authenticating as `student` using the `student` user's private key of the SSH key pair.

- Configure the `rsyslog` service on `serverb` to log all messages it receives that have the priority level of **`debug`** or higher to the file **`/var/log/grading-debug`**. This configuration should be set in an **`/etc/rsyslog.d/grading-debug.conf`** file, which you need to create.
- Install the *zsh* package, available in the BaseOS repository, on `serverb`.
- Enable the default module stream for the module `python36` and install all provided packages from that stream on `serverb`.
- Set the time zone of `serverb` to **`Asia/Kolkata`**.

Evaluation

On `workstation`, run the **`lab rhcsa-rh124-review3 grade`** command to confirm success of this exercise.

```
[student@workstation ~]$ lab rhcsa-rh124-review3 grade
```

Finish

On `workstation`, run **`lab rhcsa-rh124-review3 finish`** to complete the comprehensive review. This script deletes the files and directories created during the start of the comprehensive review and ensures that the environment on `serverb` is clean.

```
[student@workstation ~]$ lab rhcsa-rh124-review3 finish
```

This concludes the comprehensive review.

LAB

MANAGING NETWORKS

In this review, you will configure and test network connectivity.

OUTCOMES

You should be able to:

- Configure the network settings.
- Test network connectivity.
- Set a static host name for the system.
- Use locally resolvable canonical host names to connect to systems.

BEFORE YOU BEGIN

Log in to `workstation` as `student` using `student` as the password.

On `workstation`, run **`lab rhcsa-rh124-review4 start`** to start the comprehensive review. This script creates the necessary files to set up the environment correctly.

```
[student@workstation ~]$ lab rhcsa-rh124-review4 start
```

INSTRUCTIONS

Accomplish the following tasks on `serverb` to complete the exercise.

WARNING

It is a useful practice to make network changes from the server console, whether locally or through remote console access hardware. When using **`ssh`** to adjust networking settings, a mistaken command can hang or lock out your session. Network configuration corrections must then be made through the console.

In the web page that controls your lab environment, click the ***OPEN CONSOLE*** button for `serverb`. A tab will open in your browser with the console session for `serverb`. Log in as user `student` at the prompt.

- Determine the name of the Ethernet interface and its active connection profile on `serverb`.
- On `serverb`, create a new connection profile called `static` for the available Ethernet interface that statically sets network settings and does not use DHCP. Use the settings in the following table.

IPv4 address	172.25.250.111
Netmask	255.255.255.0

Gateway	172.25.250.254
DNS server	172.25.250.254

Set the server's Ethernet interface to use the updated network settings displayed in the table above.

- Ensure that the host name of `serverb` is statically set to `server-review4.lab4.example.com`.
- On `serverb`, set `client-review4` as the canonical host name for the IPv4 address `172.25.250.10` of the host `servera.lab.example.com`.
- Configure the additional IPv4 address `172.25.250.211` with the netmask `255.255.255.0` on the same interface of `serverb` that has the existing static network settings. Do not remove the existing IPv4 address. Make sure that `serverb` responds to all addresses when the connection you statically configured on its interface is active.
- On `serverb`, restore the original network settings by activating the original network connection and deactivating the `static` network connection you created manually.

Evaluation

On `workstation`, run the **`lab rhcsa-rh124-review4 grade`** command to confirm success of this exercise.

```
[student@workstation ~]$ lab rhcsa-rh124-review4 grade
```

Finish

On `workstation`, run **`lab rhcsa-rh124-review4 finish`** to complete the comprehensive review. This script deletes the files and directories created during the start of the comprehensive review and ensures that the environment on `serverb` is clean.

```
[student@workstation ~]$ lab rhcsa-rh124-review4 finish
```

This concludes the comprehensive review.

LAB

MOUNTING FILESYSTEMS AND FINDING FILES

In this review, you will mount a file system and locate files based on different criteria.

OUTCOMES

You should be able to:

- Mount an existing file system.
- Find files on the basis of the file name, permissions and size.

BEFORE YOU BEGIN

Log in to `workstation` as `student` using `student` as the password.

On `workstation`, run **`lab rhcsa-rh124-review5 start`** to start the comprehensive review. This script creates the necessary file system, user accounts and group accounts.

```
[student@workstation ~]$ lab rhcsa-rh124-review5 start
```

INSTRUCTIONS

Accomplish the following tasks on `serverb` to complete the exercise.

- On `serverb`, a block device containing the XFS file system exists but is not yet mounted. Determine the block device and mount it on the **`/review5-disk`** directory. Create the **`/review5-disk`** directory, if necessary.
- On `serverb`, locate the file called **`review5-path`**. Create a file named **`/review5-disk/review5.txt`** that contains a single line consisting of the absolute path to the **`review5`** file.
- On `serverb`, locate all the files having `contractor1` and `contractor` as the owning user and group, respectively. The files must also have the octal permissions of **`640`**. Save the list of these files in **`/review5-disk/review5-perms.txt`**.
- On `serverb`, locate all files 100 bytes in size. Save the absolute paths of these files in **`/review5-disk/review5-size.txt`**.

Evaluation

On `workstation`, run the **`lab rhcsa-rh124-review5 grade`** command to confirm success of this exercise.

```
[student@workstation ~]$ lab rhcsa-rh124-review5 grade
```

Finish

On `workstation`, run **`lab rhcsa-rh124-review5 finish`** to complete the comprehensive review. This script deletes the file system, user accounts, and group accounts created during the start of the comprehensive review and ensures that the environment on `serverb` is clean.

```
[student@workstation ~]$ lab rhcsa-rh124-review5 finish
```

This concludes the comprehensive review.