Cloud Computing Exercise #4

Basic Linux Commands

A. Preparation

1. Sign in to your AWS account as the non-root admin user.
2. Go to the EC2 dashboard, and launch a new EC2 instance using the t2.micro instance type and the “Amazon Linux 2023 AMI” image from the AWS marketplace. Start PuTTY on your local machine and start an SSH session with your running EC2 instance. (Just like we did last week. Make sure you are using the format for the hostname: “ec2-user@IPaddr of your ec2)

B. Linux commands

1. Read the manual pages for the Linux command ‘df’ and understand its output format and command line options.
2. Install the nano text editor on your instance (package name: nano).
3. Create a subdirectory called Course in your home directory and create a subdirectory called Backup in the Course directory. Make the Backup directory as your current working directory and verify that indeed this is the case.
4. Copy the file /etc/passwd into the Backup directory (hint: you can use the “.” symbol as destination if the destination directory is your current working directory). Rename the file passwd in your current working directory as users.txt.
5. Open the file users.txt with nano. Remove the line corresponding to user “bin”. Copy the line corresponding to user “rpcuser” to the end of the file. Then, add the following line to the end of the file: “There are no more users”. Finally, save the file with its new content and exit nano.
6. Display the content of the file users.txt using both the “less” and the “cat” commands and verify that the changes that you have made with nano are there.
7. Move the file from the Backup subdirectory to your home directory (/home/centos), move up two levels to your home directory (hint: use the double-dot shortcut) and verify that the file is there.
8. List the content of your home directory (use long listing), and check what kind of access privileges you, your primary group and all other users have to the users.txt file and the Course directory.
9. Remove read and execute privileges for all other users on the Course directory (that is, other users should have no access privileges at all). Verify that these privileges were removed successfully.
10. Add write privileges for users in your primary group on the users.txt file (that is, other users in your primary group should also be able to edit this file). Verify that this privilege was added successfully.
11. Go to the Course directory, start the nano text editor, and type in the following two lines exactly as they appear below (this is a very simple shell script that prints “Hello World!” on the screen):

#! /bin/bash

echo "Hello World!"

1. Save the file as “hello.sh” and exit nano.
2. Try to run the script (type: ./hello.sh). What did you experience? Check the permissions of the file hello.sh. What is the problem?
3. Change the file permissions on the file hello.sh so that it would be executable by the owning user (that is, you).
4. Try to run the script again. Now you should see the printout on the screen.
5. Delete the file hello.sh. Move up one level, and delete the file users.txt as well. Then, delete the Backup and Course directories, ending up with a perfectly empty home directory.

C. Clean up after yourself

1. Terminate the EC2 instance and verify that your instance has been terminated successfully.
2. Log out of AWS.