Working with Files and Directories

File Ownership Commands (chown, chgrp)

We will learn how to modify access rights based on both individual and group ownership in this lesson. Here, the commands chmod, chown, and chgrp are discussed.

File Manipulation

#1) chmod: Change file access permissions.

- Description: This command is used to change the file permissions. These permissions read, write and execute permission for the owner, group, and others.

- Syntax (symbolic mode): chmod [ugoa][[+-=][mode]] file

The first optional parameter indicates who – this can be (u)ser, (g)roup, (o)there, or (a)ll.

The second optional parameter indicates opcode – this can be for adding (+), removing (-), or assigning (=) permission.

The third optional parameter indicates the mode – this can be (r)ead, (w)rite, or e(x)ecute.

Example: Add writes permission for user, group, and others for file1.

- $ chmod ugo+w file1

- Syntax (numeric mode): chmod [mode] file

The mode is a combination of three digits – the first digit indicates the permission of the user, the second digit for the group, and the third digit for others.

Each digit is computed by adding the associated permissions. Read permission is ‘4’, write permission is ‘2’ and execute permission is ‘1’.

Example: Give read/write/execute permission to the user, read/execute permission to the group, and execute permission to others.

- $ chmod 751 file1

#2) chown: Change ownership of the file.

- Description: Only the owner of the file has the right to change the file ownership.

- Syntax: chown [owner] [file]

Example: Change the owner of file1 to user2 assuming it is currently owned by the current user

- $ chown user2 file1

#3) chgrp: Change the group ownership of the file

- Description: Only the owner of the file has the right to change the file ownership

- Syntax: chgrp [group] [file]

Example: Change group of file1 to group2 assuming it is currently owned by the current user

- $ chgrp group2 file1

chgrp Command: 5 Examples:

Take a look at five examples how to use the chgrp command. Below you will find commands and sample outputs for changing directory group ownership, changing the group ownership to match a reference file, displaying execution details, and hiding command errors.

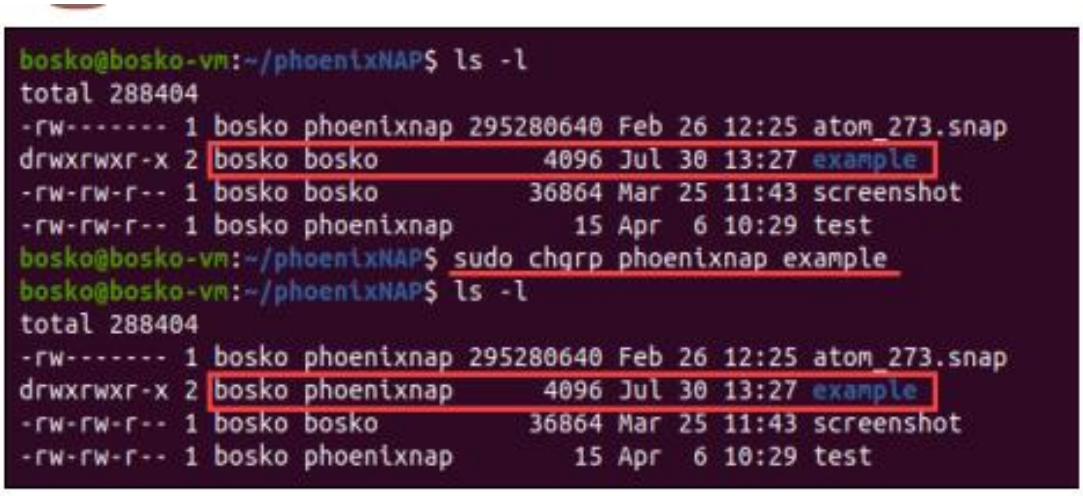
Change Directory Group

If you want to change a directory group ownership, place the directory name in place of the [FILE_NAME] attribute in the command:

- chgrp [GROUP_NAME] [DIRECTORY_NAME]

Take a look at the group name of the directory example before and after using the chgrp command. The group of the directory was changed from the default bosko to phoenixnap using the command:

- sudo chgrp phoenixnap example



Recursively Change Group Ownership

The -R option allows you to recursively change the group ownership of a directory, any of its subdirectories, and all of the contents inside.

The syntax is: • sudo chgrp -R [GROUP_NAME] [DIRECTORY_NAME]

For example,

the following command changes the group affiliation of the example directory and all its files:

- sudo chgrp -R phoenixnap example