Linux Labs – Solutions

Lab 1: Ownership and Permissions Basics

touch file1.txt file2.txt file3.txt

ls -l file\*

Output:

-rw-r--r-- 1 user user 0 file1.txt

-rw-r--r-- 1 user user 0 file2.txt

-rw-r--r-- 1 user user 0 file3.txt

Owner: user

Group: user

Writable: Yes, for the owner (rw-)

rm file1.txt file2.txt file3.txt

Lab 2: Working with Permissions and Access

Step 1:

cd ~

ls -l

Step 2:

ls /etc/passwd

mv /etc/passwd . # Should fail

cp /etc/passwd . # Should work

Step 3:

cp /etc/passwd datafile.txt

ls -l datafile.txt

(Owned by your user; permissions depend on umask)

Step 4:

cat datafile.txt

chmod u-r datafile.txt

cat datafile.txt # Permission denied

Step 5:

chmod 444 datafile.txt

ls -l datafile.txt # -r--r--r--

Step 6:

mkdir project

echo "test" > project/file.txt

chmod -x project

ls project # Permission denied

Step 7:

chmod u+x,u-r project

cd project

ls

cat file.txt

Step 8:

chmod u=rwx project/

Step 9:

mkdir -p documents/versions/

touch documents/versions/file1.txt documents/versions/file2.txt

chmod -R 755 documents/

Step 10:

chmod 444 documents/versions/\*.txt

Step 11:

mkdir scripts

touch scripts/script1.sh scripts/script2.sh

chmod 750 scripts

chmod 750 scripts/\*

Step 12:

chmod 750 scripts/\*

Step 13:

mkdir -p course/labwork course/tests

sudo chgrp users course/labwork course/tests

Step 14:

chmod 770 course

chmod 750 course/labwork

chmod 700 course/tests

Step 15:

touch course/labwork/lab1.txt course/tests/test1.txt

chmod 600 course/labwork/lab1.txt course/tests/test1.txt

Step 16:

mkdir drafts

touch drafts/file1.txt drafts/file2.txt

chmod 700 drafts

chmod g-r drafts/file1.txt drafts/file2.txt

Step 17:

chmod a+r project/\*

Step 18:

umask

# Example: 0022 → folders: rwxr-xr-x, files: rw-r--r--

Steps 19–21:

touch file1.txt

umask 000

touch file2.txt

ls -l file1.txt file2.txt

(Optional) Cleanup:

rm -r course drafts project documents scripts file1.txt file2.txt datafile.txt