Lab 4: Screen Captures

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Topology

This lab contains the following virtual devices. Please refer to the network topology diagram below.

• vWorkstation (Windows Server 2016)

• DVWA (Debian Linux)
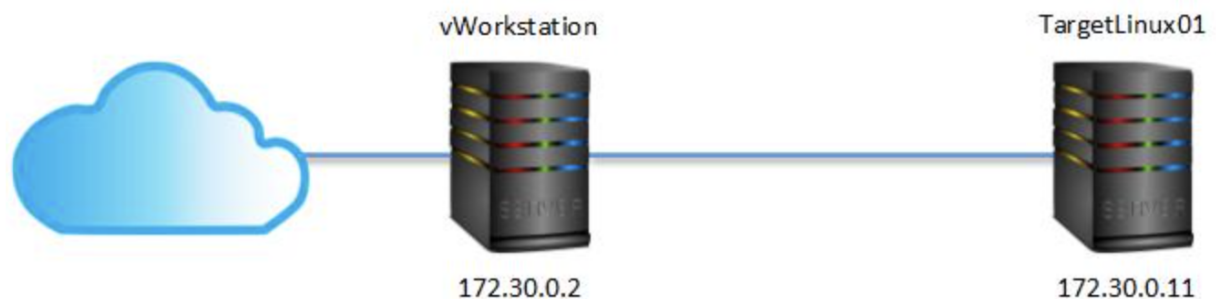
Section 1: Hands-On Demonstration

Part 1: Create New Directories


```
student@TargetLinux01:~$ cd /usr
student@TargetLinux01:/usr$ sudo mkdir coursework
[sudo] password for student:
Sorry, try again.
[sudo] password for student:
student@TargetLinux01:/usr$ ls
bin  coursework  games  include  lib  local  sbin  share  src
student@TargetLinux01:/usr$ cd coursework
student@TargetLinux01:/usr/coursework$
student@TargetLinux01:/usr/coursework$ sudo mkdir FacultyNotes
student@TargetLinux01:/usr/coursework$ sudo mkdir StudentWorkspace
student@TargetLinux01:/usr/coursework$ sudo mkdir LectureSlides
student@TargetLinux01:/usr/coursework$ cd StudentWorkspace
student@TargetLinux01:/usr/coursework/StudentWorkspace$ sudo mkdir BetsyAfiles
student@TargetLinux01:/usr/coursework/StudentWorkspace$ sudo mkdir SindyMorel
student@TargetLinux01:/usr/coursework/StudentWorkspace$ ls
BetsyAfiles  SindyMorel
student@TargetLinux01:/usr/coursework/StudentWorkspace$
```

Created a new student Workspace directory

Part 2: Change Directory Ownership and File Permissions


```
  chown -hR root /u     Change the owner of /u and subfiles to "root".

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
Full documentation at: <http://www.gnu.org/software/coreutils/chown>
or available locally via: info '(coreutils) chown invocation'
student@TargetLinux01:/usr/coursework$ chmod --help
Usage: chmod [OPTION]... MODE[,MODE]... FILE...
  or:  chmod [OPTION]... OCTAL-MODE FILE...
  or:  chmod [OPTION]... --reference=RFILE FILE...
Change the mode of each FILE to MODE.
With --reference, change the mode of each FILE to that of RFILE.

  -c, --changes          like verbose but report only when a change is made
  -f, --silent, --quiet  suppress most error messages
  -v, --verbose          output a diagnostic for every file processed
      --no-preserve-root  do not treat '/' specially (the default)
      --preserve-root    fail to operate recursively on '/'
      --reference=RFILE  use RFILE's mode instead of MODE values
  -R, --recursive        change files and directories recursively
      --help     display this help and exit
      --version  output version information and exit

Each MODE is of the form '[ugoa]*([-+=]([rwxXst]*|[ugo]))+|[-+=][0-7]+'.

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
Full documentation at: <http://www.gnu.org/software/coreutils/chmod>
or available locally via: info '(coreutils) chmod invocation'
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root 4096 Sep 10 16:01 .
drwxr-xr-x 11 root root 4096 Sep 10 15:58 ..
drwxr-xr-x  2 root root 4096 Sep 10 16:01 FacultyNotes
drwxr-xr-x  2 root root 4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root root 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$ cd StudentWorkspace
student@TargetLinux01:/usr/coursework/StudentWorkspace$ sudo chown betsya BetsyAfiles
student@TargetLinux01:/usr/coursework/StudentWorkspace$ ls -al
total 16
drwxr-xr-x 4 root   root 4096 Sep 10 16:03 .
drwxr-xr-x 5 root   root 4096 Sep 10 16:01 ..
drwxr-xr-x 2 betsya root 4096 Sep 10 16:02 BetsyAfiles
drwxr-xr-x 2 root   root 4096 Sep 10 16:03 SindyMorel
student@TargetLinux01:/usr/coursework/StudentWorkspace$
```

Ownership of the BetsyAfiles Directory.

Part 3: Change Directory Group Ownership and File Permissions

```
Change the mode of each FILE to MODE.
With --reference, change the mode of each FILE to that of RFILE.

  -c, --changes          like verbose but report only when a change is made
  -f, --silent, --quiet  suppress most error messages
  -v, --verbose          output a diagnostic for every file processed
      --no-preserve-root  do not treat '/' specially (the default)
      --preserve-root    fail to operate recursively on '/'
      --reference=RFILE  use RFILE's mode instead of MODE values
  -R, --recursive        change files and directories recursively
      --help     display this help and exit
      --version  output version information and exit

Each MODE is of the form '[ugoa]*([-+=]([rwxXst]*|[ugo]))+|[-+=][0-7]+'.

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
Full documentation at: <http://www.gnu.org/software/coreutils/chmod>
or available locally via: info '(coreutils) chmod invocation'
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root 4096 Sep 10 16:01 .
drwxr-xr-x 11 root root 4096 Sep 10 15:58 ..
drwxr-xr-x  2 root root 4096 Sep 10 16:01 FacultyNotes
drwxr-xr-x  2 root root 4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root root 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$ cd StudentWorkspace
student@TargetLinux01:/usr/coursework/StudentWorkspace$ sudo chown betsya BetsyAfiles
student@TargetLinux01:/usr/coursework/StudentWorkspace$ ls -al
total 16
drwxr-xr-x 4 root   root 4096 Sep 10 16:03 .
drwxr-xr-x 5 root   root 4096 Sep 10 16:01 ..
drwxr-xr-x 2 betsya root 4096 Sep 10 16:02 BetsyAfiles
drwxr-xr-x 2 root   root 4096 Sep 10 16:03 SindyMorel
student@TargetLinux01:/usr/coursework/StudentWorkspace$ cd /usr/coursework
student@TargetLinux01:/usr/coursework$ sudo chown suej LectureSlides
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root 4096 Sep 10 16:01 .
drwxr-xr-x 11 root root 4096 Sep 10 15:58 ..
drwxr-xr-x  2 root root 4096 Sep 10 16:01 FacultyNotes
drwxr-xr-x  2 suej root 4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root root 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$
```

Changed ownership of the BetsyAfiles to suej.

```
drwxr-xr-x 11 root root 4096 Sep 10 15:58 ..
drwxr-xr-x  2 root root 4096 Sep 10 16:01 FacultyNotes
drwxr-xr-x  2 root root 4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root root 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$ cd StudentWorkspace
student@TargetLinux01:/usr/coursework/StudentWorkspace$ sudo chown betsya BetsyAfiles
student@TargetLinux01:/usr/coursework/StudentWorkspace$ ls -al
total 16
drwxr-xr-x 4 root   root 4096 Sep 10 16:03 .
drwxr-xr-x 5 root   root 4096 Sep 10 16:01 ..
drwxr-xr-x 2 betsya root 4096 Sep 10 16:02 BetsyAfiles
drwxr-xr-x 2 root   root 4096 Sep 10 16:03 SindyMorel
student@TargetLinux01:/usr/coursework/StudentWorkspace$ cd /usr/coursework
student@TargetLinux01:/usr/coursework$ sudo chown suej LectureSlides
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root 4096 Sep 10 16:01 .
drwxr-xr-x 11 root root 4096 Sep 10 15:58 ..
drwxr-xr-x  2 root root 4096 Sep 10 16:01 FacultyNotes
drwxr-xr-x  2 suej root 4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root root 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$ cd StudentWorkspace
student@TargetLinux01:/usr/coursework/StudentWorkspace$ sudo chmod o-rx BetsyAfiles
student@TargetLinux01:/usr/coursework/StudentWorkspace$ sudo chmod g-rx BetsyAfiles
student@TargetLinux01:/usr/coursework/StudentWorkspace$ ls -al
total 16
drwxr-xr-x 4 root   root 4096 Sep 10 16:03 .
drwxr-xr-x 5 root   root 4096 Sep 10 16:01 ..
drwx------ 2 betsya root 4096 Sep 10 16:02 BetsyAfiles
drwxr-xr-x 2 root   root 4096 Sep 10 16:03 SindyMorel
student@TargetLinux01:/usr/coursework/StudentWorkspace$ cd /usr/coursework
student@TargetLinux01:/usr/coursework$ sudo chmond o-x LectureSlides
sudo: chmond: command not found
student@TargetLinux01:/usr/coursework$ sudo chmod o-x LectureSlides
student@TargetLinux01:/usr/coursework$ sudo chmod g-x LectureSlides
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root 4096 Sep 10 16:01 .
drwxr-xr-x 11 root root 4096 Sep 10 15:58 ..
drwxr-xr-x  2 root root 4096 Sep 10 16:01 FacultyNotes
drwxr--r-- 2 suej root 4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root root 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$
```

Permissions changed the permissions using an alphabetic symbol to represent the roles and permissions assigned to each role.

```
                                 Terminal - student@Tar...                                          ↑↓ -€ 10 Sep, 16
                                      Configuring Linux File System Permissions
                                                 vWorkstation
 File   Edit   View   Terminal   Tabs   Help        2023-09-10 19:40:53
      --no-preserve-root   do not treat '/' specially (the default)  Sindy Morel
      --preserve-root     fail to operate recursively on '/'
      --reference=RFILE   use RFILE's group rather than specifying a
                          GROUP value
  -R, --recursive         operate on files and directories recursively

The following options modify how a hierarchy is traversed when the -R
option is also specified.  If more than one is specified, only the final
one takes effect.

  -H                      if a command line argument is a symbolic link
                          to a directory, traverse it
  -L                      traverse every symbolic link to a directory
                          encountered
  -P                      do not traverse any symbolic links (default)

      --help      display this help and exit
      --version   output version information and exit

Examples:
  chgrp staff /u     Change the group of /u to "staff".
  chgrp -hR staff /u  Change the group of /u and subfiles to "staff".

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
Full documentation at: <http://www.gnu.org/software/coreutils/chgrp>
or available locally via: info '(coreutils) chgrp invocation'
student@TargetLinux01:/usr/coursework$ sudo chgrp faculty FacultyNotes
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root    4096 Sep 10 16:01 .
drwxr-xr-x 11 root root    4096 Sep 10 15:58 ..
drwxr-xr-x  2 root faculty 4096 Sep 10 16:01 FacultyNotes
drwxr--r--  2 suej root    4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root root    4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$ sudo chgrp student StudentWorkspace
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root    4096 Sep 10 16:01 .
drwxr-xr-x 11 root root    4096 Sep 10 15:58 ..
drwxr-xr-x  2 root faculty 4096 Sep 10 16:01 FacultyNotes
drwxr--r--  2 suej root    4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root student 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$
```

The group owner of the studentWorkspace Directory has changed.


```
                                 Terminal - student@Tar...                                          ↑↓ -€ 10 Sep, 17
                                      Configuring Linux File System Permissions
                                                 vWorkstation
 File   Edit   View   Terminal   Tabs   Help        2023-09-10 20:13:14
      --version   output version information and exit       Sindy Morel

Examples:
  chgrp staff /u     Change the group of /u to "staff".
  chgrp -hR staff /u  Change the group of /u and subfiles to "staff".

GNU coreutils online help: <http://www.gnu.org/software/coreutils/>
Full documentation at: <http://www.gnu.org/software/coreutils/chgrp>
or available locally via: info '(coreutils) chgrp invocation'
student@TargetLinux01:/usr/coursework$ sudo chgrp faculty FacultyNotes
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root    4096 Sep 10 16:01 .
drwxr-xr-x 11 root root    4096 Sep 10 15:58 ..
drwxr-xr-x  2 root faculty 4096 Sep 10 16:01 FacultyNotes
drwxr--r--  2 suej root    4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root root    4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$ sudo chgrp student StudentWorkspace
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root    4096 Sep 10 16:01 .
drwxr-xr-x 11 root root    4096 Sep 10 15:58 ..
drwxr-xr-x  2 root faculty 4096 Sep 10 16:01 FacultyNotes
drwxr--r--  2 suej root    4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root student 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$ sudo chgrp faculty FacultyNotes
[sudo] password for student:
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root    4096 Sep 10 16:01 .
drwxr-xr-x 11 root root    4096 Sep 10 15:58 ..
drwxr-xr-x  2 root faculty 4096 Sep 10 16:01 FacultyNotes
drwxr--r--  2 suej root    4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root student 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$ sudo chmod o-rx FacultyNotes
student@TargetLinux01:/usr/coursework$ ls -al
total 20
drwxr-xr-x  5 root root    4096 Sep 10 16:01 .
drwxr-xr-x 11 root root    4096 Sep 10 15:58 ..
drwxr-x---  2 root faculty 4096 Sep 10 16:01 FacultyNotes
drwxr--r--  2 suej root    4096 Sep 10 16:01 LectureSlides
drwxr-xr-x  4 root student 4096 Sep 10 16:03 StudentWorkspace
student@TargetLinux01:/usr/coursework$
```

Removed permissions of FacultyNotes directory.