**lsCHAPTER 3 GUIDED EXERCISE**

**MAKING LINKS BETWEEN FILES**

In this exercise, you will create hard links and symbolic links and compare the results.

**OUTCOMES**

You should be able to create hard links and soft links between files.

**BEFORE YOU BEGIN**

Log in as the student user on workstation using student as the password.

On workstation, run the **lab files-make start** command. This command runs a start script that determines if the servera host is reachable on the network and creates the files and working directories on servera.

[student@workstation ~]$ **lab files-make start**

**1.** Use the **ssh** command to log in to servera as the student user. The systems are configured to use SSH keys for authentication, and therefore a password is not required.

[student@workstation ~]$ **ssh student@servera**

*...output omitted...*

[student@servera ~]$

**2.** Create a hard link named **/home/student/backups/source.backup** for the existing file, /**home/student/files/source.file**.

2.1. View the link count for the file, **/home/student/files/source.file**.

[student@servera ~]$ **ls -l files/source.file**

total 4

-rw-r--r--. **1** student student 11 Mar 5 21:19 source.file

2.2. Create a hard link named **/home/student/backups/source.backup**. Link it to

the file, **/home/student/files/source.file**.

[student@servera ~]$ **ln /home/student/files/source.file \**

**/home/student/backups/source.backup**

2.3. Verify the link count for the original **/home/student/files/source.file** and

the new linked file, **/home/student/backups/source.backup**. The link count

should be **2** for both files.

[student@servera ~]$ **ls -l /home/student/files/**

-rw-r--r--. **2** student student 11 Mar 5 21:19 source.file

[student@servera ~]$ **ls -l /home/student/backups/**

-rw-r--r--. **2** student student 11 Mar 5 21:19 source.backup

**3.** Create a soft link named **/home/student/tempdir** that points to the **/tmp** directory on servera.

3.1. Create a soft link named **/home/student/tempdir** and link it to **/tmp**.

[student@servera ~]$ **ln -s /tmp /home/student/tempdir**

3.2. Use the **ls -l** command to verify the newly created soft link.

[student@servera ~]$ **ls -l /home/student/tempdir**

lrwxrwxrwx. 1 student student 4 Mar 5 22:04 /home/student/tempdir -

> /tmp

**4.** Exit from servera.

[student@servera ~]$ **exit**

logout

Connection to servera closed.

[student@workstation ~]$

**5. Evaluation**

On workstation, run the **lab files-make grade** script to complete this exercise.

[student@workstation ~]$ **lab files-make grade**

**6. Finish**

On workstation, run the **lab files-make finish** script to finish this exercise. This script removes all files and directories created on servera during the exercise.

[student@workstation ~]$ **lab files-make finish**

This concludes the guided exercise.