**Chapter 5 GUIDED EXERCISE**

**CHANGING THE SHELL ENVIRONMENT**

In this exercise, you will use shell variables and variable expansion to run commands and set an environment variable to adjust the default editor for new shells.

**OUTCOMES:**

You should be able to:

• Edit user profile.

• Create a shell variable.

• Create an environment variable.

**BEFORE YOU BEGIN**

Log in to workstation as student using student as the password.

On workstation, run the **lab edit-shell start** command. This script verifies that the target server is running.

[student@workstation ~]$ **lab edit-shell start**

1**.** Change the student user's PS1 shell variable to **[\u@\h \t \w]$** (remember to put the

value of PS1 in quotes and put in a trailing space after the dollar sign). This will add the time

to the prompt.

1.1. On workstation, use the **ssh** command to log in to servera.

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

*...output omitted...*

[student@servera ~]$

1.2. Use Vim to edit the **~/.bashrc** configuration file.

[student@servera ~]$ **echo "PS1='[\u@\h \t \w]$ '" >> ~/.bashrc**

[student@servera ~]$ **echo "**export PATH**" >> ~/.bashrc**

1.3. Add the PS1 shell variable and its value to the **~/.bashrc** file. Remember to include

a trailing space at the end of the value that you set and put the entire value in

quotes, including the trailing space.

*...output omitted...*

# User specific environment and startup programs

PATH=$PATH:$HOME/.local/bin:$HOME/bin

export PATH

1.4. Exit from servera and log in again using the **ssh** command to update the command prompt.

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

logout

Connection to servera closed.

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

*...output omitted...*

[student@servera 14:45:05 ~]$

1.5. Echo the **$PS1** variable into file /home/student/ps1.txt. Verify the contents of the new file.

[student@servera 09:22:00 ~]$**echo $PS1 >/home/student/ps1.txt**

[student@servera 09:22:16 ~]$cat ps1.txt

[\u@\h \t \w]$

[student@servera 09:22:22 ~]$**cat ~/ps1.txt**

[\u@\h \t \w]$

[student@servera 09:22:33 ~]$

2**.** Assign a value to a local shell variable. Variable names can contain uppercase or lowercase letters, digits, and the underscore character. Retrieve the variable value.

2.1. Create a new variable called file with a value of **tmp.zdkei083**. The

**tmp.zdkei083** file exists in the student home directory.

[student@servera 14:47:05 ~]$ **file=tmp.zdkei083**

2.2. Retrieve the value of the file variable.

[student@servera 14:48:35 ~]$ **echo $file**

tmp.zdkei083

2.3. Use the variable name file and the **ls -l** command to list the **tmp.zdkei083** file.

[student@servera 14:59:07 ~]$ **ls -l $file**

-rw-rw-r--. 1 student student 0 Jan 23 14:59 tmp.zdkei083

2.4. Redirect the output of the **ls -l tmp.zdkei083** command to file ~/**ls.file**. Verify the contents of the new file.

[student@servera 09:26:39 ~]$**ls -l tmp.zdkei083 >~/ls.file**

[student@servera 09:28:39 ~]$

[student@servera 09:28:39 ~]$**cat ~/ls.file**

-rw-rw-r--. 1 student student 0 Dec 5 09:26 tmp.zdkei083

[student@servera 09:30:10 ~]$

2.5 Use the **rm** command and the file variable name to delete the **tmp.zdkei083**

file.

[student@servera 14:59:10 ~]$ **rm $file**

[student@servera 14:59:10 ~]$

Confirm it has been deleted. Redirect all output of the ls –l command to file **ls.nofile**. Note- the metacharacter & redirects both standard output and standard error.

[student@servera 14:59:10 ~]$ **rm $file**

[student@servera 14:59:10 ~]$

[student@servera 09:34:02 ~]$**ls -l $file &>ls.nofile**

[student@servera 09:35:31 ~]$

[student@servera 09:35:39 ~]$**cat ls.nofile**

ls: cannot access 'tmp.zdkei083': No such file or directory

[student@servera 09:35:50 ~]$

3**.** Assign a value to the editor variable.

3.1 Use one command to make the variable an environment variable.

[student@servera 14:46:40 ~]$ **export EDITOR=vim**

[student@servera 14:46:55 ~]$ **echo $EDITOR**

vim

3.2 Redirect the output of the **cat** command to file **EDITOR.parent**.

[student@servera 09:39:41 ~]$**echo $EDITOR >/home/student/EDITOR.parent**

[student@servera 09:39:48 ~]$**cat EDITOR.parent**

vim

3.3 Open a child BASH shell and verify the environment variable EDITOR retains the value vim.

[student@servera 09:39:51 ~]$**sh -c echo $EDITOR**

[student@servera 09:39:51 ~]$**sh -c echo $EDITOR >EDITOR.child**

[student@servera 09:39:51 ~]$**sh -c cat EDITOR.child**

vim

sh-4.4$

4**.** Exit from servera.

[student@servera 14:47:11 ~]$ **exit**

logout

Connection to servera closed.

[student@workstation ~]$

5. **Evaluation**

On workstation, run the **lab edit-shell grade** script to complete this exercise.

[student@workstation ~]$ **lab edit-shell grade**

6. **Finish**

On workstation, run the **lab edit-shell finish** script to complete this exercise.

[student@workstation ~]$ **lab edit-shell finish**

This concludes the guided exercise.