Linux Academy
Course Notes

The Linux
Bash Shell

Contents

Commands and Running Programs

- `time [command]` • Show how long system took to execute command

- `pwd` • Print working directory

- `set` • Set options for shell

- `exec [program]` • Execute a command to replace shell process; when program terminate it terminates the shell

- `./program` • Rungs program inside of current directory

- Short cuts:

  - **CTRL+R** • Search history

  - **CTRL+P** • Go up command

  - **CTRL+N** • Go down command

  - **CTRL+G** • Terminate search function

  - **CTRL+S** • Search forward in history

  - **CTRL+A** • Move cursor to start of line

  - **CTRL+E** • Move cursor to end of line

  - **CTRL+B** • Move backward in line

  - **CTRL+F** • Move forward in line

  - **CTRL+D** • Delete character in line

  - **CTRL+K** • Delete whole line

  - **CTRL+X+Backspace** • Delete all character from cursor back

  - **CTRL+T** • Move character down line

  - **ESC, C** • Change character case

  - **ESC, U** • Convert work to uppercase

  - `history -c` • Clear history

Shell Customization

- `.bashrc` and `.bash_profile` are the main configuration files for a user's Bash shell

- Environment variables can be set at the command line: `export VARIABLE=value`

- `unset variable [name]` • Delete variable

Redirection and Text Manipulation

- `>` and `<` • Standard output or standard input

- `&>` • Create new file for output and error

- `2>>` • Append standard error

- `2>` • Overwrite with standard error

- `|` • Redirection standard output of command before the pipe to the input of the command after the pipe

- `tee` • Read from input and write to standard output and files

- `xargs` • Build and execute command lines from standard input

- `cat` • Output, or concatenate, one or more files

- `join` • Join lines of two files in a command field

- `paste` • Merge lines of files

- `expand` • Convert tabs to spaces

- `od` • Dump files in octal format

- `sort` • Sort lines of text

- `split` • Split file into pieces

- `tr` • Translate, squeeze or delete characters from standard input to standard output

- `unexpand` • Convert spaces to tabs

- `uniq` • Report or omit repeated lines

Reading and Managing Files

- `fmt` • Simple optimal text formatter

- `nl` • Lines in file

- `head` • Output first ten lines of file

  - `-c` • Set number of bytes to view

- **−n** • Set number of lines to view

- **tail** • Output last ten lines of file

- **less** • View file in vi-like setting

- **cut** • Print selected parts of file to standard output

- **wc** • Word count

- **sed** • Stream editor used to perform basic text transformations