



Linux Academy

Course Notes

The Linux Bash Shell

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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** • Runs 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

