

Introduction to Linux & Bashscript - Cheat Sheet

KRISP, UKZN – 2 & 3 March, 2020

Linux Commands

General

Command	Operation
ssh	Remote log-in to a server
cd	Change directory to a specified path
clear	Clear the screen
diff	Compare the contents of files
exit	Log out of Linus
grep	Find a string of text in a file
sed	Editing text or data
head	Display beginning of a file
less	View a file
ls	List contents of a directory
mv	Move or rename files
mkdir	Create a directory
rm	Delete files
rmdir	Delete a directory
tail	Display end of a file
vi	Edit files with Linux text editor
pwd	Shows the present working directory
cp	Copy files
scp	Secure copy files
touch	Create new empty file
man	Look up the manual page for a command
basename	Extract the file name from the full path
wc	Counting words or lines in a file
cat	A tool to get the content of a file
curl	A tool to download data from the web
sort	A tool to sort multiple lines
chmod	Change mode or permissions of a file

Path navigation

Operator	Operation
/	Root directory
~	Home directory
.	Current directory
..	Previous directory

Vi text editor

Operator	Operation
vi file	Open or edit a file
i	Enter insert/edit mode
ESC	Go back to command mode
:w	Save changes made to a file
:q	Close a file

Wildcards/Regular Expressions

Character	Usage
.	Matches any single character
*	Matches 0 or more occurrences of preceding regular expression
+	Matches 1 or more occurrences of the preceding regular expression
[...]	Matches any one of the class characters enclosed in between []
^	Matches the beginning of the line
\$	Matches the end of the line
\	Escapes the special character that follows
	Matches either the preceding or following regular expression
()	Groups regular expressions

Grep

Options	Function
-v	Finds lines NOT containing the pattern
-color	Colors the matched text
-F	Interprets the pattern as a literal string
-H, -h	print, don't print the matched filename
-i	ignore case for the pattern matching
-l	lists the file names containing the pattern
-n	prints line number containng the pattern
-c	counts the number of matches for a pattern

- o only print the matching pattern
- w forces the pattern to match an entire word
- x forces patterns to match the whole line

Bash Script Commands

General

Command	Operation
./program.sh	Executing bash script program
echo Text	Print Text
chmod +x .sh	Make a bash script executable

Arithmetic

Operator	Operation
+, -, *, /	addition, subtraction, multiply, divide
var++	Increase the variable var by 1
var--	Decrease the variable var by 1
%	Modulus (Return remainder after division)

Conditional tests:

Operator	Description
-lt	less than (numbers)
-gt	greater than (numbers)
-eq	Equal to (numbers)
==	Equal to (strings)
!=	Not equal to (strings)
&&	AND
	OR
! EXPRESSION	The EXPRESSION is false.
-n STRING	The length of STRING is greater than zero
-z STRING	The length of STRING is zero (it is empty)
-d FILE	FILE exists and is a directory.
-e FILE	FILE exists.
-r FILE	FILE exists and read permission is granted
-w FILE	FILE exists and write permission is granted
-x FILE	FILE exists and execute permission granted