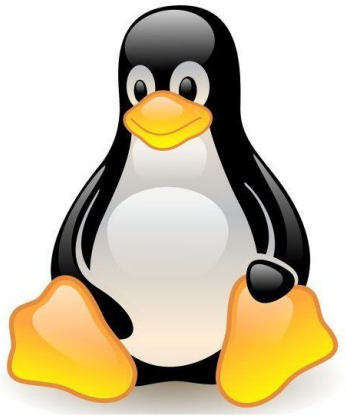
Linux Plus

for

AWS and DevOps

sed, awk, cronjob & tar



CLARUSWAY
WAY TO REINVENT YOURSELF

Table of Contents

- sed
- awk
- cronjob

sed command

SED command in UNIX stands for stream editor and it can perform lots of functions on file like searching, find and replace, insertion or deletion.

Though most common use of SED command in UNIX is for substitution or for find and replace.

By using SED you can edit files even without opening them, which is much quicker way to find and replace something in file, than first opening that file in VI Editor and then changing it.

SED is a powerful text stream editor. Can do insertion, deletion, search and replace(substitution).
SED command in unix supports regular expression which allows it perform complex pattern matching.

Syntax:

```
sed OPTIONS... [SCRIPT] [INPUTFILE...]
```

awk command

Awk is a scripting language used for manipulating data and generating reports. The awk command programming language requires no compiling and allows the user to use variables, numeric functions, string functions, and logical operators.

Awk is a utility that enables a programmer to write tiny but effective programs in the form of statements that define text patterns that are to be searched for in each line of a document and the action that is to be taken when a match is found within a line. Awk is mostly used for pattern scanning and processing. It searches one or more files to see if they contain lines that matches with the specified patterns and then perform the associated actions.

Awk is abbreviated from the names of the developers – Aho, Weinberger, and Kernighan.

Syntax:

```
awk options 'selection _criteria {action }' input-file > output-file
```

Crontab

Crontab helps to automate any tasks within unix using a simple command line tool.

The crontab is a list of commands that you want to run on a regular schedule, and also the name of the command used to manage that list.

Crontab stands for “cron table, ” because it uses the job scheduler cron to execute tasks; cron itself is named after “chronos, ” the Greek word for time.cron is the system process which will automatically perform tasks for you according to a set schedule.

Linux Crontab Format

```
MIN HOUR DOM MON DOW CMD
```

Crontab Fields and Allowed Ranges (Linux Crontab Syntax)

Field	Description	Allowed Value
MIN	Minute field	0 to 59
HOUR	Hour field	0 to 23
DOM	Day of Month	1-31
MON	Month field	1-12
DOW	Day Of Week	0-6
CMD	Command	Any command to be executed.

https://crontab.guru/

Website for cronjob validation

Crontab

We can also use some regular expressions to define the cron job.

* = Any/All values # e.g. * * * * * date > /home/ec2-user/date.log
- = Range of values # e.g. 1-5 * * * * date > /home/ec2-user/date.log
, = Multiple/List of values # e.g. 1,3 * * * * date > /home/ec2-user/date.log

Linux Crontab Format

```
MIN HOUR DOM MON DOW CMD
```

Crontab Fields and Allowed Ranges (Linux Crontab Syntax)

Field	Description	Allowed Value
MIN	Minute field	0 to 59
HOUR	Hour field	0 to 23
DOM	Day of Month	1-31
MON	Month field	1-12
DOW	Day Of Week	0-6
CMD	Command	Any command to be executed.

https://crontab.guru/

Website for cronjob validation

tar command

The Linux ‘tar’ stands for tape archive, which is used to create Archive and extract the Archive files. tar command in Linux is one of the important commands which provides archiving functionality in Linux. We can use the Linux tar command to create compressed or uncompressed Archive files and also maintain and modify them.

Syntax of `tar` command in Linux

```
tar [options] [archive-file] [file or directory to be archived]
```

What is an Archive file?

An Archive file is a file that is composed of one or more files along with metadata.

Archive files are used to collect multiple data files together into a single file for easier portability and storage, or simply to compress files to use less storage space.

Examples:

1. Creating an uncompressed tar Archive using option -cvf

This command creates a tar file called file.tar which is the Archive of all .c files in the current directory.

```
tar cvf file.tar *.c
```

- ‘-c’: Creates a new archive.
- ‘-v’: Displays verbose output, showing the progress of the archiving process.
- ‘-f’: Specifies the filename of the archive

tar extract options

2. Extracting files from Archive using option -xvf

This command extracts files from Archives.

```
tar xvf file.tar
```

- '-x': Extracts files from an archive.
- '-v': Displays verbose output during the extraction process.
- '-f': Specifies the filename of the archive.

Output :

```
os2.c
os3.c
os4.c
```

Options	Description
-c	Creates an archive by bundling files and directories together.
-x	Extracts files and directories from an existing archive.
-f	Specifies the filename of the archive to be created or extracted.
-t	Displays or lists the files and directories contained within an archive.
-u	Archives and adds new files or directories to an existing archive.
-v	Displays verbose information, providing detailed output during the archiving or extraction process.
-A	Concatenates multiple archive files into a single archive.
-z	Uses gzip compression when creating a tar file, resulting in a compressed archive with the '.tar.gz' extension.
-j	Uses bzip2 compression when creating a tar file, resulting in a compressed archive with the '.tar.bz2' extension.
-W	Verifies the integrity of an archive file, ensuring its contents are not corrupted.
-r	Updates or adds files or directories to an already existing archive without recreating the entire archive.

THANKS!

Any questions?

You can find me at:

- @sumod
- sumod@clarusway.com