LESSON 8



$ _

grep · sed · find

Learn it all @MyWebUniversity



A FREE MYWEBUNIVERSITY COURSE

BASH & ZSH SCRIPTING

LESSON 8

Text Tools in Scripts

grep, sed, awk, cut, sort, uniq, find and xargs

grep: Find Lines

terminal

```
$ grep -i error app.log
$ grep -rn "TODO" src/
$ grep -c 404 access.log
$ grep -v '^#' config.ini        # hide comments
$ if grep -q "^mariam:" /etc/passwd; then echo "user exists"; fi
```

- grep prints lines that match a pattern. Dash i ignores case, dash r searches folders, dash …
- In scripts, grep dash q is quiet: it prints nothing and only sets the exit code, perfect …

01

sed: Edit Streams

terminal

```
$ sed 's/http:/https:/g' links.txt
$ sed -i.bak 's/^port=.*/port=8443/' app.conf
$ sed '/^$/d' notes.txt              # delete empty lines
$ sed -n '10,20p' big.log             # print lines 10-20
```

- sed edits text as it flows. The s command substitutes: s slash old slash new slash g …
- Dash i edits a file in place, so keep a backup with dash i dot bak. sed can also delete …

02

cut, sort, uniq and wc

terminal

```
$ cut -d, -f2 students.csv | sort | uniq -c | sort -rn
  12 Kabul
   7 Herat

$ cut -d' ' -f1 access.log | sort | uniq -c | sort -rn | head -10
$ wc -l *.csv
```

- cut takes columns, sort orders lines, uniq removes or counts neighbours that repeat, and wc …
- Together they answer questions like which ten IP addresses visited most, in one readable …

03

find and xargs

terminal

```
$ find . -name "*.log" -mtime +30            # logs older than 30 days
$ find /var/log -type f -size +100M
$ find . -name "*.tmp" -delete
$ find . -name "*.jpg" -print0 | xargs -0 du -ch | tail -1
```

- find searches the folder tree by name, type, size and age. Dash name, dash type f, dash …
- Dash exec or xargs runs a command on every result. Use dash print0 with xargs dash 0 so …

04

A Cleanup Script

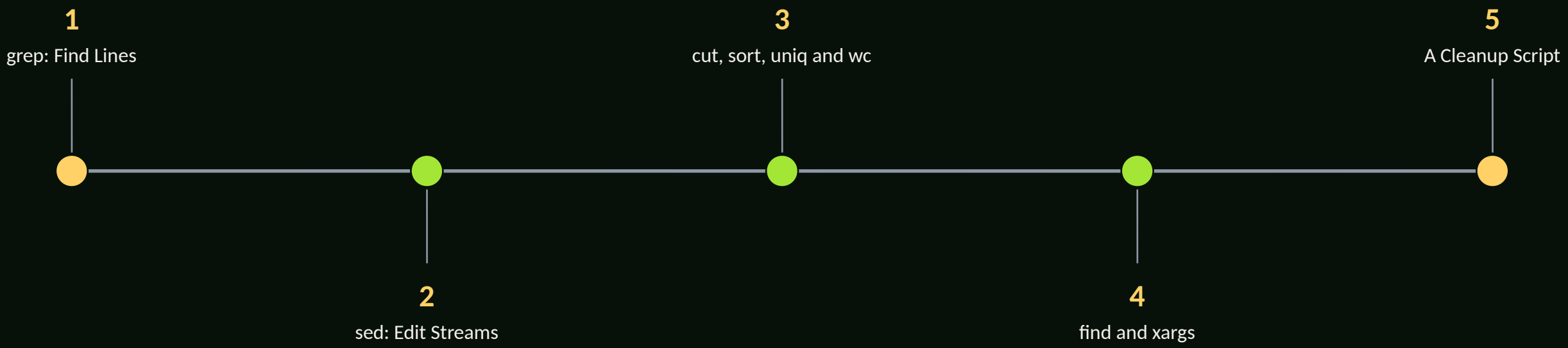
cleanup.sh

```
#!/bin/bash
dir="${1:-/var/log/myapp}"
before=$(du -s "$dir" | cut -f1)
find "$dir" -name "*.log" -mtime +7  -exec gzip {} \;
find "$dir" -name "*.gz"  -mtime +90 -delete
after=$(du -s "$dir" | cut -f1)
echo "freed $(( (before - after) / 1024 )) MB"
```

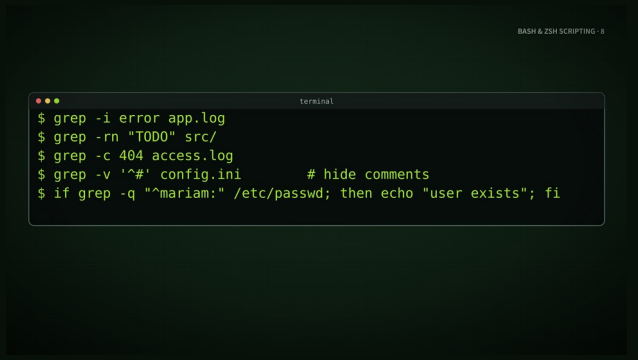
- Here the tools work together: compress logs older than seven days, delete compressed logs …
- This is a real script that runs every night on thousands of servers in some form.

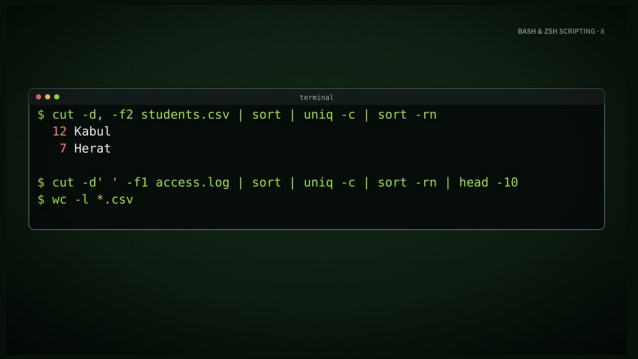
05

Lesson Map


1
grep: Find Lines
2
sed: Edit Streams
3
cut, sort, uniq and wc
4
find and xargs
5
A Cleanup Script

Sources and Further Reading





Thank you for watching

MyWebUniversity.com

Free technical education since 2000 — English and Dari

@MyWebUniversity · @MyWebUniversity-Dari