

Lecture 5 | Handling text files

Handling text files

- Linux offers a lot of command line tools for handling text.
- Some of those tools are:

Cat
Tac
More
Less
Head
Diff

Tail
Cut
Paste
Sort
Wc
Tr
Grep



Cat command

Cat

- The cat command is used for **displaying the content of a file**.
- Cat is short for **concatenate** which is the the command intended use.
- Concatenation means joining two strings together.
- Usage:

- `cat + file to display`
- `cat + file 1 + file 2`

The diagram shows a terminal window with two commands and their outputs, annotated with red boxes and labels:

- Command 1:** `raalberto@cis106:~$ cat food`
The `food` argument is highlighted in a red box, labeled "File to display".
The output is:
pizza
rice
potatoes
- Command 2:** `raalberto@cis106:~$ cat food drinks`
The `food drinks` argument is highlighted in a red box, labeled "Files to concatenate (join)".
The output is:
pizza
rice
potatoes
soda
water
juice

Annotations:

- A red box around the first output ("pizza", "rice", "potatoes") is labeled "Content of the food file".
- A red box around the second output ("pizza", "rice", "potatoes", "soda", "water", "juice") is labeled "The content of both files displayed one after the other".



- Examples of CAT

More examples of the cat command

Display the content of a file with line numbers

```
cat -n /etc/passwd
```

Display the content of a file with line numbers excluding empty lines

```
cat -b /etc/resolv.conf
```

Display a \$ at the end of every line

```
cat -E /etc/group
```

Display the content of a file suppressing repeating empty lines to a single empty line

```
cat -s /etc/hosts
```

For more information, read the man page of the cat command. Also take some time to read the man pages of the passwd, resolv.conf, group, and hosts files.

6

Tac command

Tac

- The tac command is used for displaying the content of a file in **reverse order** in a line by line basis
- The tac command can also **concatenate files** in reverse order
- Usage:
 - `tac + file to display`
 - `tac + file 1 + file 2`

Content of the food file in reverse order

The content of both files displayed one after the other in reverse order. Notice that the files are reversed first and then concatenated

```
raalberto@cis106:~$ tac food
potatoes
rice
pizza
raalberto@cis106:~$ tac food drinks
potatoes
rice
pizza
juice
water
soda
raalberto@cis106:~$
```

File to display

Files to concatenate (join)

7

More and Less

More

- The more command is a pager program used for displaying the content of a text file one page at a time.
- Usage:
 - `more + file to view`
- For getting help navigating the menu press h
- Examples of the more command:

Open a file and display guiding information in the bottom

```
more -d /var/log/syslog
```

Open a file 10 lines at a time

```
more -10 /var/log/syslog
```

For more information, read the man page of the more command



less

- The less command is another pager program that displays the content of a file 1 page at a time.
- Less is faster than more when dealing with large files since it loads 1 page at time
- Usage:
 - `less + file to view`
- Examples of the less command:

Open a file with line numbers

```
less -N /var/log/syslog
```

Open a file at the beginning of the first occurrence of a string

```
less -p "nobody" /etc/passwd
```



Head and Tails

Head

- The head command displays the top N number of lines of a given file. By default, it prints the first 10 lines. If more than one file name is provided then data from each file is preceded by its file name.
- Usage:
 - **head + option + file**
- Examples of the head command:

Display the first 10 lines of a file

```
head /etc/passwd
```

Display the first 5 lines of a file

```
head -5 /etc/passwd
```



Tail

- The tail command displays the last N number of lines of a given file. By default, it prints the last 10 lines. If more than one file name is provided then data from each file is preceded by its file name.
- Usage:
 - **tail + option + file**
- Examples of the head command:

Display the last 10 lines of a file

```
tail /etc/passwd
```

Display the last 5 lines of a file

```
tail -5 /etc/passwd
```



Sort

Examples of the sort command

Sort the file and save the output to a new file

```
sort -o usersSorted.txt users.txt
```

```
adrian@G752VL:~$ sort -o usersSorted.txt users.txt
adrian@G752VL:~$ cat usersSorted.txt
aarias          arnold          aarias@email.net
jisabella       james           jisabella@games720.com
lemma          liam            lemma_grmail.com
nolivia         nadine          supernah@citizen.com
rgerald        ray             rgerald67@parks.com
users          name            email
wava           william         wava_1988@recreation.com
adrian@G752VL:~$
```



Grep

Examples of the grep

Search for a given string in a file

```
grep "IP" data.csv
```

Search for a given string in a file with case insensitivity

```
grep -i "ip" data.csv
```

Search for a given string in multiple files

```
grep "user" file1 file2
```

Search for a string and show line numbers.

```
grep -n "License" /usr/share/doc/bash/README
```

