Quality of Life

a better terminal experience

2024-11-26

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Enabler for Life Sciences

Terminal improvements

- There are a lot of small tips that will improve your experience greatly.

- This lecture will cover some of them:
  - Navigating the terminal
  - Finding files and contents of files

- Also covered: How to transfer files to/from Dardel

Command history

- Up & down arrow to step through history

Command history

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- Ctrl+r to search through previous commands

Command history

- Up & down arrow to step through history

- Ctrl+r to search through previous commands
    - Ctrl+r again to search further back

Quicker cursor

- Navigating the command line can be done quicker than with just left and right arrows

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ctrl+a and ctrl+e places the cursor at the beginning and end of command line respectively

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ctrl+a and ctrl+e places the cursor at the beginning and end of command line respectively

alt+**b** to go **b**ack a word, alt+**f** to go **f**orward

Cursor position

- No need to be at end of line when pressing enter
- Only determines where you type or erase

```
$ echo “Position not important”█
```

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Cursor position

- No need to be at end of line when pressing enter
- Only determines where you type or erase

```
$ echo “Position not important”
```

Previous directory

- Remembers previous directory

```
user@login1 ~/ $
```

Previous directory

- Remembers previous directory

```
user@login1 ~/ $ cd /proj/g2020009
```

Previous directory

- Remembers previous directory

```
user@login1 ~/ $ cd /proj/g2020009
user@login1 /proj/g2020009 $
```

Previous directory

- Remembers previous directory

```
user@login1 ~/ $ cd /proj/g2020009
user@login1 /proj/g2020009 $ cd -
```

Previous directory

- Remembers previous directory

```
user@login1 ~/ $ cd /proj/g2020009
user@login1 /proj/g2020009 $ cd -
user@login1 ~/ $
```

Previous directory

- Remembers previous directory

```
user@login1 ~/ $ cd /proj/g2020009
user@login1 /proj/g2020009 $ cd -
user@login1 ~/ $ cd -
```

Previous directory

- Remembers previous directory

```
user@login1 ~/ $ cd /proj/g2020009
user@login1 /proj/g2020009 $ cd -
user@login1 ~/ $ cd -
user@login1 /proj/g2020009 $
```

Rsync & SCP

- Copy files between computers
- Similar syntax as cp

```
rsync user@host:/path/to/file  /local/path
```

Rsync & SCP

- Copy files between computers
- Similar syntax as cp

```
rsync \
user@dardel.pdc.kth.se:/cfs/klemming/home/u/user/t.txt \
.
```

Rsync & SCP

- Copy files between computers
- Similar syntax as cp
- rsync: -a save modification time, -P show progress

```
rsync -aP \
user@dardel.pdc.kth.se:/cfs/klemming/home/u/user/t.txt \
.
```

Rsync & SCP

- Copy files between computers
- Similar syntax as cp
- rsync: -a save modification time, -P show progress
- Copy files either direction

```
rsync -aP \
user@dardel.pdc.kth.se:/cfs/klemming/home/u/user/t.txt \
.

rsync -aP t.txt \
user@dardel.pdc.kth.se:/cfs/klemming/home/u/user/
```

Rsync & SCP

- Copy files between computers
- Similar syntax as cp
- rsync: -a save modification time, -P show progress
- Copy files either direction

```
rsync -aP \
user@dardel.pdc.kth.se:/sw/courses/ngsintro/linux/qol/aa.fa \
.
```

Find

- Find files based on name

```
$ find /path/to/look/ -name nametolookfor.txt
```

Find

- Find files based on name

```
$ find /path/to/look/ -name nametolookfor.txt
$ find . -name "*.txt"
```

Grep

- Searches content of files

```
$ grep texttofind filetolookin.txt
```

Grep

- Searches content of files

```
$ grep texttofind filetolookin.txt

$ grep “text to find” /path/to/files/*.txt
```

Grep

- Searches content of files

```
$ grep texttofind filetolookin.txt

$ grep “text to find” /path/to/files/*.txt

$ cd /sw/courses/ngsintro/linux/qol
$ grep MYNAME protein_seq.fa
```

Grep

- Searches content of files

```
$ grep texttofind filetolookin.txt

$ grep “text to find” /path/to/files/*.txt

$ cd /sw/courses/ngsintro/linux/qol
$ grep MYNAME protein_seq.fa

$ grep -r “found” filetree/*
```

Ctrl+c

- Kills whatever your terminal is currently running
    - Sometimes we want to end programs prematurely, for whichever reason.

```
$ cd /sw/courses/ngsintro/linux/qol
$ python friendly_counter.py
```

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Ctrl+c

- Kills whatever your terminal is currently running
  - Destroys hanged or non-executing commands
  - Cancel commands that are running for too long
  - Cancel commands that you realize are incorrect

Using multiple terminals

- Launch and use several terminals for better overview of your work
  - Write your scripts in one terminal, run your scripts in another, check the results in a third…

- Just like you might have several tabs in your browser or have several documents open at once